



CHAMBER OF MINES OF SOUTH AFRICA

*Putting South Africa First*



# MINING CHARTER: OWNERSHIP COLLATION

April 2015

DRAFT REPORT  
FOR CONSIDERATION BY THE CHAMBER OF MINES  
COUNCIL MEMBERS



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## 1. Executive summary

The purpose of this document is to present the findings of the collation process, and to enable the mining industry to have aggregated information to quantify the percentage of the South African mining industry (represented by the members of the Chamber) owned by HDSAs. It represents the majority of the Chamber membership but also captures a significant portion of the South African mining industry (80% – 90% based on BEE transactions, value and volumes). Although it is a snapshot, the analysis has captured the ownership compliance in relation to asset level mining rights' compliance. The results below demonstrate that the industry has met and exceeded the ownership target of 26% HDSA by 2014, despite the significant challenges posed by the 2008 World Financial Crisis and the current commodity demand weakness. In addition, meaningful economic participation of HDSAs has occurred with broad based identifiable beneficiaries and cash flowing to HDSA beneficiaries.

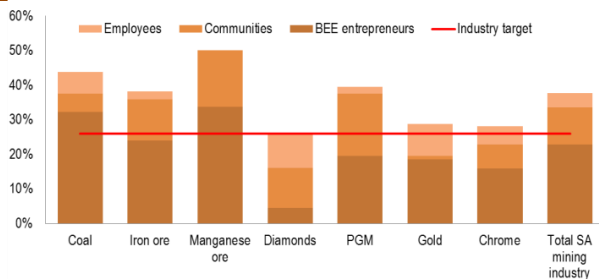
- HDSA ownership of the South African mining industry as at the end of December 2014 averaging 38%. This is significantly above the 26% agreed upon target, demonstrating the industry's commitment to transformation and the spirit of the Mining Charter. (The total results are displayed, weighted across commodity sectors based on volumes (units of production), and value (EBITDA multiple basis).)
- The various sectors of the South African mining industry have similarly all met or exceeded the HDSA ownership targets based on volume – PGM at 38.0%, Gold at 27.3%, Coal at 47.2%, Diamonds at 26.0%, Iron Ore at 35.7%, Manganese Ore at 42.2% and Chrome at 35.1%. The composition of beneficiaries in the industry has benefited through ownership, both directly and indirectly, is 63% BEE entrepreneurs, 22% communities and 15% employees.
- Excluding the benefits from 'continuing consequences', the CoM estimated level of HDSA ownership reduces from an average of 38% to 28%.
- The identified beneficiaries which were recipients of the meaningful economic empowerment were 60% BEE entrepreneurs; 29% communities and 11% employees (ESOPs).
- An estimated number of 95 BEE entrepreneurs, community and employee structures have been established over the period, benefiting a total of 7.1 million HDSAs. The majority of the beneficiaries are communities (6.9 million), with more than 200 000 employees benefiting, representing some 41% of the total SA mining industry labour force.
- The DMR has indicated that given the definition of meaningful economic participation includes identifiable beneficiaries, they expect all three beneficiaries should be present to satisfy the definition. Based on the company information we have received, we find that the proportion of companies that have all three present, i.e. BEE entrepreneurs, communities and ESOPs represented in its HDSA empowerment structures represents a minimum of 41% of the SA Mining Industry.
- Over the 12 year period, dividends of a minimum of R47 billion was paid to HDSA beneficiaries, representing 19.6% of the total 'company' dividends paid over the period. This is in line with an increased in ownership to 15% by 2009 and 26% by 2014 and fairly represents the average over the period. It also does not take into account profit from asset sales over the period.
- BEE transactions with an initial value of R116 billion were implemented over the period. These transactions created net value of R159 billion (+207%) (as per companies' submissions) over the same period. The net value created represented 26% HDSA ownership for the entire industry.
- However, based on a through-the-cycle low and high valuation of assets, the net value created represents between R155bn (+200%) and R282bn (+444%) or 25% to 46% of the entire industry value.

*This document presents collated figures of the South African mining industry HDSA ownership over 14 years to 2014*

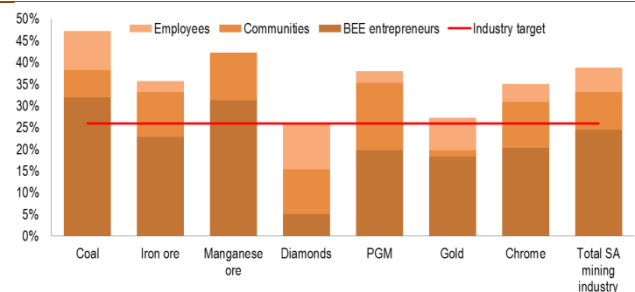
*The industry has achieved 38% HDSA ownership as at the end of December 2014, having exceeded the 26% target, despite challenges posed by the World Financial Crisis*

*Meaningful economic value transfer and broad based ownership participation was received by a minimum of 46 BEE companies, 6.9 million community members and 200 thousand employees*

- External factors such as volatile commodity prices, the performance of the underlying asset and the funding structure used to facilitate the transactions resulted in varying levels of success for BEE transactions.

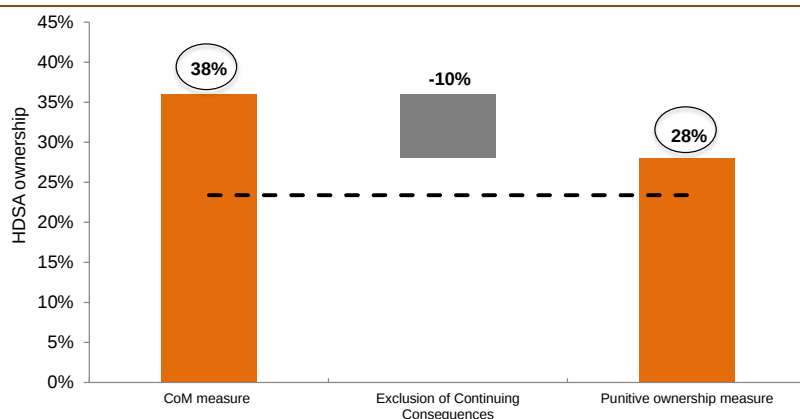
**Figure 1: HDSA ownership by Value (EBITDA)**

Source: SNG and Chamber of Mines analysis

**Figure 2: HDSA ownership by volume (Sales and revenue)**

Source: SNG and Chamber of Mines analysis

The figure below illustrates the impact of excluding the benefits of the continuing consequences (-10%). It represents of exited HDSA participation both pre- and post 2004, although the pre-2004 component is estimated to represent 2% (of the 10%). The impact of the exclusion is punitive to the industry and reduces the HDSA empowerment from 38% to 28%.

**Figure 3: Reconciliation of CoM measure vs potential other stakeholder calculations**

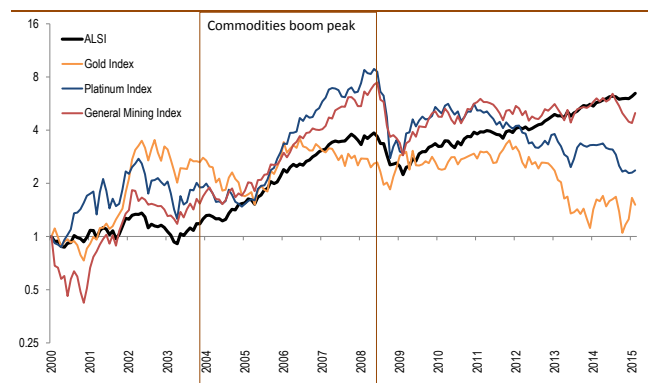
Source: Companies' DMR submissions, SNG and Chamber of Mines analysis

*Disregarding past transactions and application of the more stringent effective ownership principle may reduce HDSA ownership from 38% to 28%.*

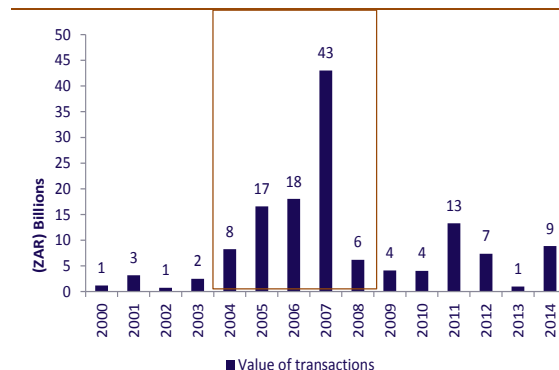
### Transactions and net value

Over the last 14 years, the mining industry has experienced volatility, which presented challenges and resulted in varying levels of success in the implementation of HDSA ownership transfer. The investment cycles of the industry which impact cash flow levels as well as funding constraints are some of the factors that presented challenges. To address these challenges, most companies were forced to be creative and invent new facilitation models to try and shore up some of these transactions. This was done to ensure that not just the letter but also the spirit of the Mining Charter targets are delivered. To highlight this, the figures below demonstrate the performance of the mining sectors relative to the JSE, as well as a summary of the value of HDSA transactions over the period, as per Deal Makers Online. As can be seen, a significant portion of BEE transactions were concluded during boom time. Over the last 14 years, some R205 billion worth of BEE transactions were concluded.

*R205 bn worth of mining BEE transactions were concluded since 2000, with a significant portion concluded prior to the World Financial Crisis in 2008/2009*

**Figure 4: Equity indices performance (rebased 2000)**

Source: I-Net Bridge and Momentum Investment Managers

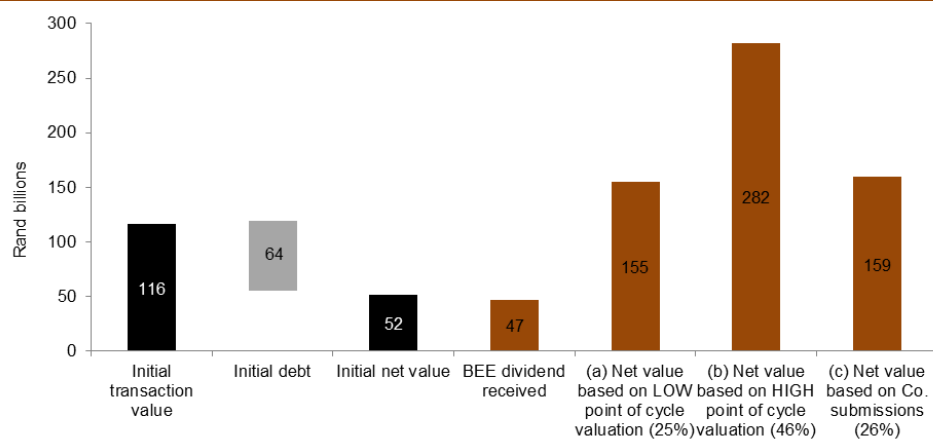
**Figure 5: BEE transactions by value (R billion)**

Source: RMB and Deal Makers Online

Significant value has been created based on our estimates over the last 14 years. There are three current BEE net values indicated in figure 6, which in summary highlights three alternate methods we considered in arriving at the net value estimation:

- Low cycle valuation methodology – net value created of R155 bn representing 25% of the total average mining industry value.
- High cycle valuation methodology - net value created of R282 bn representing 46% of the total average mining industry value.
- Company valuation (as per submission to the DMR - net value created of R159 bn representing 26% of the total average mining industry value.

*Based on a range of methods of calculating net value created for HDSA recipients, value transfer including dividends ranges from R155 bn (+200%) to R282 bn (+444%)*

**Figure 6: Estimation of value created (meaningful economic participation of HDSA)**

Source: SNG, RMB and Chamber of Mines analysis

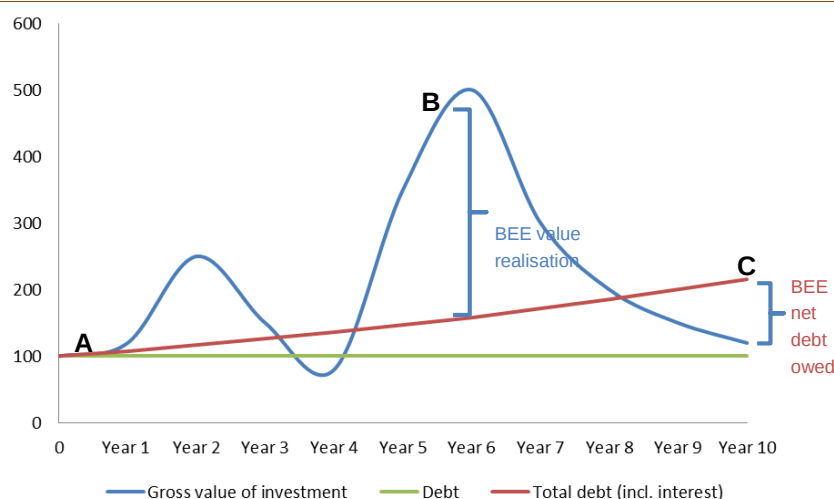
Where companies didn't provide their current values in their DMR submissions, a comparative analysis of the BEE net values with the exclusions is as follows:

- Based on a low cycle valuation methodology applied consistently to all sectors (representing 25% of the total average mining industry value). On this basis, net value has increased to R115 bn or 137%.
- Based on a high cycle valuation methodology applied consistently to all sectors (representing 48% of the total average mining industry value). On this basis, net value has increased to R216 bn or 346%.
- Based on company valuation submitted to the DMR (representing 35% of the total average mining industry value). On this basis, net value has increased to R159 bn or 228%.

### Funding structures, cycle timing and facilitation

Most BEE transactions were put in place with the intention of creating value for the beneficiaries. However, in reality, the potential for value creation was dependent on a number of factors, key being the performance of the underlying as well as the funding structure used to facilitate the transactions. Value creation was therefore a function of volatility in commodity prices and other qualitative factors, which drive the performance on the JSE and the return to shareholders. In addition, underlying debt and the timing of the transaction were also critical factors impacting value creation.

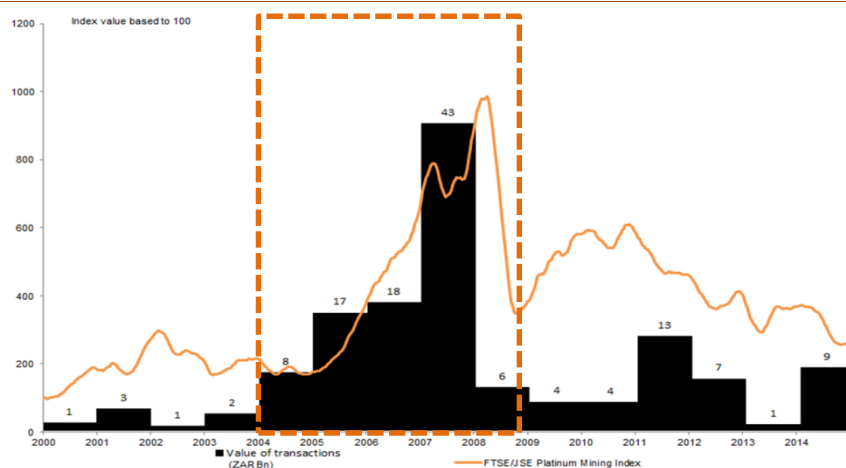
**Figure 7: Illustrative impact of when transaction matures**



Source: RMB

From a market perspective, creating sustainable value for BEE transactions in a volatile market has been one of the key challenges. BEE transactions could therefore have dramatically different outcomes depending on the point at which they mature in the commodity cycle.

**Figure 8: Impact of volatile markets on value transfer**



Source: RMB

Transactions, which were conceived during the boom cycle of 2004 to 2007, are likely to currently have high debt numbers and depressed valuations (e.g. the platinum sector) with the result that value-creating potential will be minimal, taking into account current valuations. However, transactions, which unwound at the height of the commodities boom (e.g. iron ore), would have seen significant value transfer to beneficiaries.

*The varying successes of BEE transactions was determined by the timing of commodity cycle and underlying debt components.*



Funding of BEE transactions in a sustainable manner, with limited equity coming from BEE parties, was also a challenge. Innovative forms of financing, supported by vendor companies were necessary to ensure that transactions were implemented. Facilitation had multiple forms, but all were designed to overcome the challenge of raising third party debt finance for a full value purchase price of shares. In the transactions completed in the mining sector, facilitation ranged from soft to hard facilitation. This has been in the form of *inter alia*, vendor financing, guarantees, discounts and donation of shares.

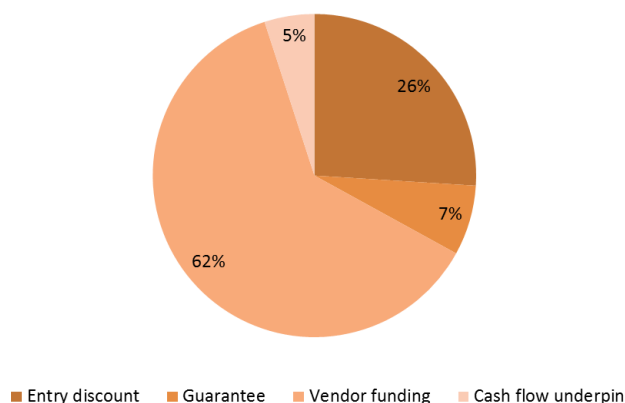
Figure 9: BEE facilitation continuum



Source: Chamber of Mines analysis

From the data analysed, it is evident that the industry provided a significant amount of facilitation to ensure the sustainability of BEE transactions. As discussed above, a wide range of facilitation options have been applied to create sustainable and particularly fundable BEE transactions within the industry over the past 14 years. Due to the extreme cycles the industry has experienced, facilitation/funding models have often had to be adjusted during the terms of a transaction to improve the probability of transactions creating value for the beneficiaries. Due to the Mining Charter maturing and getting assessed during particularly depressed times in the commodity cycle, with many companies facing significant margin/cash flow pressures, a range of transactions (through no fault of either the vendor or BEE buyer) have shown to have particularly challenging economics. Figure 10 indicates that the main form of facilitation provided by mining companies was in the form of vendor facilitation followed by an entry discount.

Figure 10: Funding facilitation



Source: Company DMR submissions and RMB analysis

*The data analysed showed a significant amount of BEE facilitation, including hard and soft facilitation – this has been critical to counter the challenges faced as a result of volatile markets*



**Summarised HDSA ownership results**

|                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>The South African Mining Industry</b> | The industry has achieved BEE ownership of 37.7% (22.8% BEE entrepreneurs, 10.8% communities and 4.2% ESOPs) based on value of the assets. The ownership structure has benefited 60% BEE entrepreneurs, 29% communities and 11% ESOPs, and an estimated 7 million individuals. In terms of volumes, the industry has achieved BEE ownership level of 38.8% (24.3% BEE entrepreneurs, 9.1% communities and 5.4% ESOPs). The ownership has benefited 63% BEE entrepreneurs, 22% communities and 15% ESOPs. The industry has created net value of between R 155 320 million and R 282 018 million representing a return of between 200% and 444%. In addition, most of the sectors have not only met but also exceeded the 26% minimum compliance requirement. Disregarding past transactions the BEE ownership percentage reduced to 28%. |
| <b>PGM</b>                               | The PGM sector has achieved BEE ownership of 39.5% (19.5% BEE entrepreneurs, 18.0% communities and 2.0% ESOPs) based on value. The ownership structure has benefited 49% BEE entrepreneurs, 46% communities and 5% ESOPs, and an estimated 2 774 493 individuals. In terms of volumes, the industry has achieved a BEE ownership of 38.0% (19.8% BEE entrepreneurs, 15.5% communities and 2.6% ESOPs). The ownership structure has benefited 52% BEE entrepreneurs, 41% communities and 7% ESOPs. The PGM sector has a total net value of between R 43 442 million and R 65 987 million representing a change of between 109% and 212%. Disregarding past transactions the BEE ownership percentage reduced to 26%.                                                                                                                     |
| <b>Gold</b>                              | The Gold sector has achieved BEE ownership of 28.8% (18.6% BEE entrepreneurs, 0.9% communities and 9.2% ESOPs) based on value. The ownership structure has benefited 65% BEE entrepreneurs, 3% communities and 32% ESOPs, and an estimated 135 109 individuals. In terms of volumes, the industry has achieved a BEE ownership of 27.3% (18.3% BEE entrepreneurs, 1.6% communities and 7.5% ESOPs). The ownership structure has benefited 67% BEE entrepreneurs, 6% communities and 27% ESOPs. The Gold sector has a net value of between R 7 182 million and R 32 267 million representing a change of between -31% and 209%. Disregarding past transactions the BEE ownership percentage reduced to 12%.                                                                                                                              |
| <b>Coal</b>                              | The Coal sector has achieved BEE ownership of 43.9% (32.0% BEE entrepreneurs, 5.3% communities and 6.3% ESOPs) based on value. The ownership structure has benefited 74% BEE entrepreneurs, 12% communities and 14% ESOPs, and an estimated 1 753 087 individuals. In terms of volumes, the industry has achieved a BEE ownership of 47.2% (32.0% BEE entrepreneurs, 6.2% communities and 9.0% ESOPs). The ownership structure has benefited 68% BEE entrepreneurs, 13% communities and 19% ESOPs. The Coal sector has a net value of between R24 000 million and R 49 512 million representing a change of between 189% and 497%. Disregarding past transactions the BEE ownership percentage reduced to 32%.                                                                                                                          |
| <b>Diamonds</b>                          | The Diamond sector has achieved BEE ownership of 26.0% (4.4% BEE entrepreneurs, 11.6% communities and 10.0% ESOPs) based on value. The ownership structure has benefited 17% BEE entrepreneurs, 45% communities and 38% ESOPs, and an estimated 114 653 individuals. In terms of volumes, the industry has achieved a BEE ownership of 26.0% (5.1% BEE entrepreneurs, 10.2% communities and 10.7% ESOPs). The ownership structure has benefited 20% BEE entrepreneurs, 39% communities and 41% ESOPs. The Diamond sector has a net value of between R 616 million and R 5 290 million representing a change of between -56% and 282%. Disregarding past transactions the BEE ownership percentage would remain 26%.                                                                                                                     |
| <b>Iron ore</b>                          | The Iron Ore sector has achieved BEE ownership of 38.2% (24.0% BEE entrepreneurs, 12.0% communities and 2.2% ESOPs) based on value. The ownership structure has benefited 63% BEE entrepreneurs, 31% communities and 6% ESOPs, and an estimated 1 482 163 individuals. In terms of volumes, the industry has achieved a BEE ownership of 35.7% (22.9% BEE entrepreneurs, 10.3% communities and 2.5% ESOPs). The ownership structure has benefited 64% BEE entrepreneurs, 29% communities and 7% ESOPs. The Iron Ore sector has a net value of between R 53 220 million and R 115 330 million representing a change of between 433% and 1054%. Disregarding past transactions the BEE ownership percentage reduced to 33%.                                                                                                               |

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**Summarised HDSA ownership results**


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**Manganese ore**

The Manganese Ore sector has achieved BEE ownership of 50.1% (33.3% BEE Entrepreneurs, 16.3% Communities and 0.0% ESOPs) based on value. The ownership structure has benefited 67% BEE entrepreneurs, 33% communities and 0% ESOPs, and an estimated 411 512 individuals. In terms of volumes, the industry has achieved a BEE ownership of 42.2% (31.2% BEE entrepreneurs, 11.0% communities and 0.0% ESOPs). The ownership structure has benefited 74% BEE entrepreneurs, 26% communities and 0% ESOPs. The Manganese Ore sector has a net value of between R -436 million and R 8 389 million representing a change of between -100% and 100%. Disregarding past transactions the BEE ownership percentage reduced to 42%.

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**Chrome**

The Chrome sector has achieved BEE ownership of 28.1% (15.9% BEE entrepreneurs, 7.0% communities and 5.2% ESOPs) based on value. The ownership structure has benefited 57% BEE entrepreneurs, 25% communities and 18% ESOPs and an estimated 454 594 individuals. In terms of volumes, the industry has achieved a BEE ownership of 35.1% (20.3% BEE entrepreneurs, 10.6% communities and 4.2% ESOPs). The ownership structure has benefited 58% BEE entrepreneurs, 30% communities and 12% ESOPs. The Chrome sector has a net value of between R 1 824 million and R 5 242 million representing a change of between 204% and 774%. Disregarding past transactions the BEE ownership percentage would remain 35%.

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## 2. Background

The mining industry is currently undergoing a regulatory compliance review to assess the level of transformation and economic value creation for HDSAs as required in terms of the Mining Charter. The Department of Minerals (DMR) indicated that results of this compliance review process are expected to be released during April 2015. The DMR is leading the Mining Industry Growth, Development and Employment Task Team (MIGDETT) process, which is a tri-partite structure between business, labour and government. Its purpose is to address strategic issues facing the industry – the Mining Charter is one of its areas of focus. With the review undertaken by the Department of Mineral Resources (DMR) the CoM undertook an exercise in the collation of individual company information relating to the ownership element of the Mining Charter. The aim of the exercise is to produce aggregated information on empowerment (HDSA ownership) in the SA mining industry and demonstrate the significant economic value that has been transferred to HDSAs since 2000 as a result of the mining industry's extensive empowerment drive.

The purpose of this collation process is to enable the mining industry to have aggregated information to quantify and estimate the percentage of the South African mining industry (represented by the members of the Chamber) owned by HDSAs. The focus of this engagement is between the Chamber, DMR and other stakeholders in the MIGDETT engagements, which include labour unions. It may further form the basis of the industry's communication with media and investors. The result seeks to address the issues the DMR has requested companies to report on, while capturing the additional information industry believes has been omitted in the DMR process.

### Challenges regarding measurement of HDSA ownership

Although there is clarity in terms of the Mining Charter around the level of HDSA ownership required at 26%, there are divergent views in the industry on how this should be calculated.

- General agreement exists in terms of the principle that ownership should be measured at the time when the transaction (or empowerment) occurred. This view is held across companies in the industry and the DMR seems to subscribe to this. In terms of ongoing evaluation of this target, it is less clear how this will or should be measured.
- There are marked differences in how companies measure empowerment. This could either be done in terms of volume of production or value of assets. These two different approaches invariably lead to different results. This is of particular significance as the current measurement of the ownership target will influence future measurements post 2014.
- Quantifying the credits attributed to continuing consequences in the measurement of the ownership target remains a challenge. Recognition for continuing consequences appears to be mainly at the discretion of the DMR.

### Debate around continuing consequences

The mining industry has been unwavering in its position that continuing consequences for past transactions should be recognised in the measurement of its performance against the 26% ownership target. This was clear in the 2002 Mining Charter which stated: *"The continuing consequences of all previous deals would be included in calculating such credits/offsets in terms of market share as measured by attributable units of production"*.

*The purposes of this document is to compile and industry view of the HDSA ownership level for Mining Charter compliance purposes*

*Industry is of the view that that the continuing consequences principle should be taken into account as part of the assessment, hence the declaratory order process*

However, the 2010 revision to the Mining Charter, brought a new twist with the proviso that recognition for past transactions would only apply to transactions implemented before the promulgation of the MPRDA (2004).

Industry remained unwavering through those discussions, asserting that the continuing consequences remain in place post 2004. However, it appears that this amendment was imposed on the industry by the DMR based on the amendment made in 2010, despite objections at the time.

As a result of this disagreement with the DMR, the mining industry (represented through the Chamber) is approaching the courts to seek clarity on the matter. The DMR Minister has agreed to the process of a declaratory order to allow the courts to make a ruling on the continuing consequences issue.

### 3. Ownership collation – aggregated results

#### Approach and methodology

The following approach and methodology were applied in the compilation exercise:

*A bottom up approach was adopted with compilation starting at asset level*

##### Information collection

The information relating to the ownership element was sourced in three primary methods:

- Interviews/meetings with the company specialists on ownership and BEE transactions;
- Documents provided by the companies; and
- Ownership templates submitted to the DMR.

##### Asset level collation

Given the complexities of crossholdings of assets by different companies, it was necessary to ensure there was no double-counting of empowerment across the industry. As such, an asset level analysis was undertaken at an operational level. Distinction between assets/operations occurs where different empowerment structures apply. Ownership of an asset is then divided between different corporate and BEE shareholders.

As part of this process, consideration is given for equity participation of BEE shareholders. In addition, BEE participation is specified based on the four categories as considered by the DMR – BEE entrepreneurs, employees, communities and other broad-based groups (including women).

This is in line with the DMR template submissions, which are linked back to mining rights at an asset level mainly.

##### Dual aggregation approach

Information has been collated based on volumes (units of production) and value. Below is an explanation of the calculation, with examples based on figures in Appendix G on page 54.

- For the volume aggregation process, the asset empowerment is weighted based on the estimated or provided volumes per asset in each sector for calendar 2014. The sectors are then aggregated based on the total mineral sales value per sector. Due to certain commodity sectors having a rather wide range of product qualities, this necessitated the simplification of the calculations.
- For the value aggregation process, ideally standard DCF valuation methodology would have been used, but this was impractical due to wide range of variables, confidential life of mine plans and time constraints. As values are assessed at asset level, in most cases references to market capitalisation also posed challenges, particularly for multi commodity, multi asset and multinational companies. Therefore an EBITDA multiple valuation methodology was used across the board, by applying a high and low range multiple (based on a through the cycle range per sector) to the estimated or provided 2014 EBITDA for the asset. This approach ensured a necessary standardisation to provide an enterprise value estimate across the sector, sufficient for relative weighting and industry valuation purposes.

*Value and volume were used as the primary basis for aggregation of the information*

**Shareholding**

- To reduce the risk of double-counting, we recorded the transactions at an asset level as far as practicable.
- Where the BEE partner is Black controlled, we included the shareholding as an effective 100% BEE shareholder.
- Where the entity itself is Black controlled, we included the shareholding at its effective percentage (i.e. flow through).
- Where the BEE partner is not Black controlled, we included the shareholding at an effective percentage (i.e. flow through).

**Treatment of past transactions (continuing consequences)**

The industry has remained unwavering in its recognition of past transactions where the BEE partner has exited in its empowerment credentials. For entities where the mining assets have not been re-empowered we included the current shareholding as the Members have in their submission to the DMR.

There are two categories of past transactions (continuing consequences), which have been treated differently in this collation process:

- **Category 1 - Re-empowered; Multiple owners:** Where the asset is currently re-empowered we have included past transactions as a continuing consequence, to prevent double counting in the collation process. This is in the instance where an asset has a history of multiple BEE transactions, and an existing empowerment partner remains present. It is also applied to cases where the assets have had multiple owners over the last 14 years. Where the BEE partner has exited the transaction (past transactions) we have obtained the value in reference to the price at the exit date and have applied the effects of the time value of money at an average CPIX rate of 6%. In the analysis that follows, we indicate this category separately.
- **Category 2 - Same owner; historic empowerment:** For past transactions where the BEE partner has exited from the transactions, industry maintains that compliance has been met in terms of mining right being granted. This is where the asset has not been re-empowered, nor exchanged ownership and double counting is not a consideration. As such, we have included those empowerment credentials in the current section of the ownership calculation. In the analysis that follows, this is included in the current calculation.

It is important to note that all of the Mining industry's empowerment credentials are ultimately at risk, should exited past transactions be disallowed. Not recognizing past transactions effectively means that mining companies need to have 26% of their business empowered at any point in time in perpetuity. This while BEE partners are able to enter and exit, benefiting from economic value in perpetuity. The need for HDSA participants to realise value from their ownership, implies that each transaction at some stage will have an HDSA partner who has exited and therefore would put ownership credentials at risk. Lock-ins for BEE partners are a solution but within the next 3 years, the majority of BEE transactions in the industry will unwind.

*Past transactions were taken into account for purposes calculation HDSA ownership level*

**Treatment of Reserve and Resources**

Over the Mining Charter period, several companies have had significant interaction with the DMR with regards to determining empowerment credentials on the basis of reserves and resources transferred into BEE hands. Intuitively, long term reserves and resources probably better represent value within a mining company than near-term cash flows of a potentially short-life asset.

Due however to the many challenges in getting appropriately comparable industry wide data (various reserve and resource calculation methods, quality comparison challenges based on stage of resource, widely varying mineral quality, access, depth, infrastructure, etc.), it was decided not to include an analysis in this report. This had the consequence that the calculation of value transferred into BEE hands is understated throughout the report:

- Many greenfield assets sold have as yet not been converted into EBITDA producing assets, and hence, will not have been captured in the analysis
- This analysis has focused on the large industry assets only: as a result a wide range of prospecting and mining rights transferred into BEE hands have not been reflected (i.e. manganese ore, coal)
- Measuring EBITDA at a moment in time as a reflection of current value ignores the long-term value benefits and optionality of large resource bases transferred into BEE hands

**Treatment of beneficiation credits**

Certain companies have included credits for beneficiation in their submissions, which under the current Mining Charter, can be used to partially offset ownership credits required. There is currently little to no clarity on the appropriate definition for beneficiation per industry, nor any clarity provided by the DMR on how to calculate such credits accurately. Such credits have therefore not been included in our calculations, and as such the ownership numbers provided err on the conservative side from this perspective.

*Non-producing assets (including ex-life-of-mine resources transferred) were not taken into account and therefore HDSA ownership may be understood as a result*

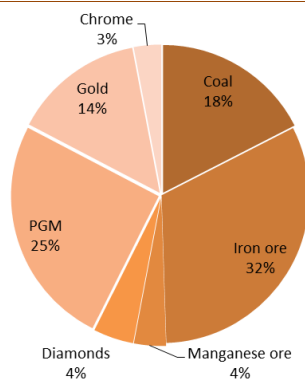
*Beneficiation credits not taken into account*



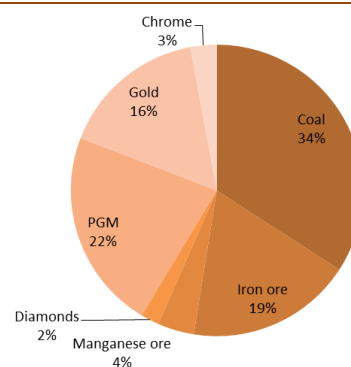
**South African mining industry sector weightings**

Given the extensive scale and variety of mining operations forming part of the South African mining industry, this analysis focuses on the largest assets across the largest sectors. The collation is based on seven key sectors – PGMs, Gold, Iron Ore, Coal, Manganese Ore, Diamonds and Chrome. Assets included in the analysis represent the majority of the sector by volume and value. The results therefore would not represent the entire South African mining industry but would account for the majority of companies represented by the Chamber. It does, however, provide for the majority of South African mining operations, and is, in our opinion, a fair proxy for the South African mining industry, on the basis of the 80/20 principle. The key weighting differences are due to margin differences across the sectors as at 2014. The figures below demonstrate the relative sector weightings applied, based on value and volume:

*80/20 principle was adopted  
in selecting companies to be  
included in the analysis*

**Figure 11: Sector weighting by value (EBITDA)**

Source: SNG and Chamber of Mines analysis

**Figure 12: Sector weighting by volume (sales and revenue)**

Source: SNG and Chamber of Mines analysis

## Results of mining industry HDSA ownership collation (Identifiable beneficiaries)

Meaningful economic HDSA participation is being assessed based on the identifiable beneficiaries being inclusive of entrepreneurs, communities and employees. As such we indicate the performance of the industry overall on that basis. The shareholder rights associated with that ownership is also a key component. Although not highlighted in this report, all the companies considered have the appropriate shareholder rights associated with its ownership. This section focuses on the ownership component in terms of identifiable beneficiaries. The following sections will demonstrate the economic value transfer.

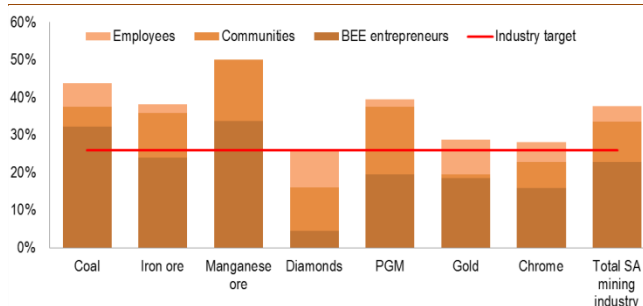
*Based on Chamber calculations, the mining industry has achieved an average of 38% HDSA ownership as at the end of December 2014*

It is the assessment of the Chamber of mines, that in terms of the Mining Charter scorecard requirement of 26% HDSA ownership by 2014, the industry has met and exceeded this target. Total HDSA economic participation in the industry averages 38%. This is based on the calculation where individual sectors are weighted either by volume (units of production) or value (EBITDA multiple).

All sectors have met or exceeded the ownership target level. In order of ownership level from highest to lowest, based on a volume weighted average: Coal at 47.2%, Manganese Ore at 42.2%, PGM at 38.0%, Iron Ore at 35.7%, Chrome at 35.1%, Gold at 27.3%, and Diamonds at 26.0%.

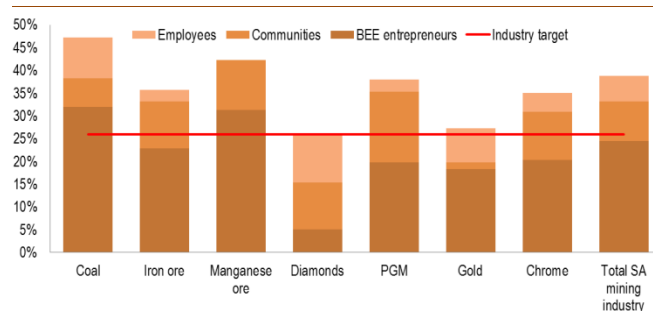
See Appendix E page 52 for sector details.

**Figure 13: HDSA ownership by Value (EBITDA)**



Source: SNG and Chamber of Mines analysis

**Figure 14: HDSA ownership by volume (Production and mineral sales)**



Source: SNG and Chamber of Mines analysis

The industry has achieved a BEE ownership level of 37.7% based on value. This split as follows:

- BEE entrepreneurs - 22.8% ownership of total SA mining industry (or 60% of total HDSA economic participation). This includes a minimum of 46 participants;
- Communities - 10.8% ownership of total SA mining industry (or 29% of total HDSA participation). This includes a minimum of 6.9 million community members.
- Employees - 4.2% ownership of total SA mining industry (or 11% of total HDSA participation). This includes a minimum of 200 thousand employees.

*The mining sector has benefited a significant number of beneficiaries – both directly and indirectly*

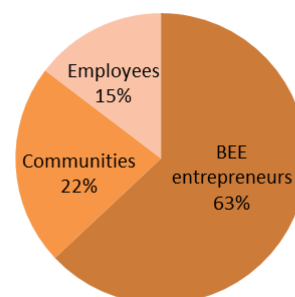
The comparative figures based on a volume aggregation are illustrated in the table below for comparison purposes.

Figure 15: Total HDSA overall contribution

|                         | Total HDSA  | BEE entrepreneurs | Communities | ESOPs      |
|-------------------------|-------------|-------------------|-------------|------------|
| <b>By value (%)</b>     |             |                   |             |            |
| Current                 | 36.0        | 21.7              | 10.3        | 4.0        |
| Continuing consequences | 1.7         | 1.0               | 0.5         | 0.2        |
| <b>Total</b>            | <b>37.7</b> | <b>22.8</b>       | <b>10.8</b> | <b>4.2</b> |
| <b>By volume (%)</b>    |             |                   |             |            |
| Current                 | 31.9        | 19.9              | 7.5         | 4.5        |
| Continuing consequences | 6.9         | 4.3               | 1.6         | 1.0        |
| <b>Total</b>            | <b>38.8</b> | <b>24.3</b>       | <b>9.1</b>  | <b>5.4</b> |
| <b>Participants</b>     |             |                   |             |            |
| No of structures        | 95.0        | 46.0              | 31.0        | 18.0       |
| No of individuals       | 7 125 611   | 46.0              | 6 915 449   | 210 116    |

Source: SNG and Chamber of Mines analysis

Figure 16: Total HDSA component contribution



Source: SNG and Chamber of Mines analysis

The DMR has indicated that given the definition of meaningful economic participation includes identifiable beneficiaries, all three beneficiaries should be present. Based on the company information we have received, we find that the proportion of companies that have BEE entrepreneurs, communities and ESOPs present in its HDSA empowerment structures represents 41% of the SA Mining Industry PGM at 27%, Gold at 25%, Coal at 64%, Diamonds at 50%, Iron ore at 50%, Manganese ore at 0%, and Chrome at 50%. Should the sector weighting be applied based on volume the compliance of the industry would be 44%.

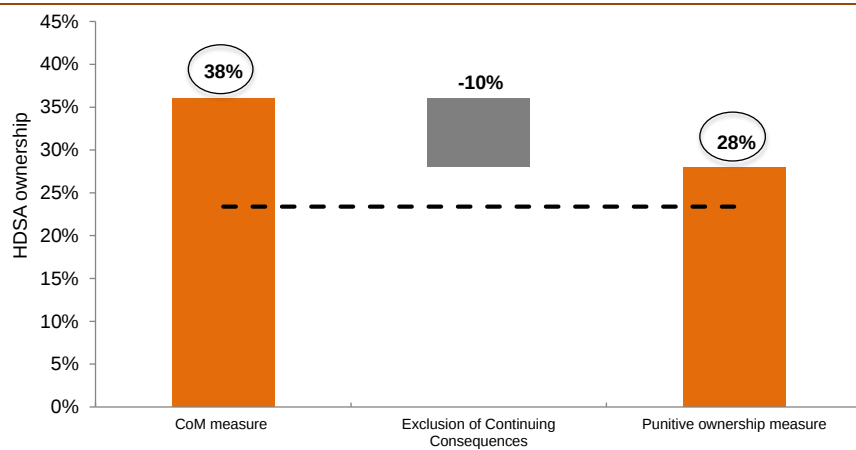
See Appendix H page 55 for detailed split per sector of the analysis above.

As part of the analysis, a comparison has been undertaken to determine where other stakeholders may differ with the findings of the Chamber of Mines. This analysis allows us to understand the source of possible disagreements with stakeholders on the issue. As such, we demonstrate in the figure below, that from the Chamber total of 38%, a worst case figure could be 28%. The 28% would imply the industry has still complied, placing ownership above the 26% target. The 28% is calculated on the following assumptions:

- Reduction from continuing consequences challenge – 10%:
  - Exclusion of past transactions where BEE partners have exited.
  - No recognition for previous asset sales
  - This is for both pre- and post 2004 continuing consequences, however the pre-2004 amount is 2% (of the 10%)

*Presence of the three structures for beneficiaries achieved by 41% of SA Mining Industry and 44% based on sector weightings by volume.*

*Disregarding the continuing consequences and application of the more stringent effective ownership principle reduces HDSA ownership from 38% to 28%*

**Figure 17: Reconciliation of Chamber measure vs potential other stakeholder calculations**

Source: Companies' DMR submissions, SNG and Chamber of Mines analysis

See Appendix H page 55 for detailed split per sector of the analysis above.

## Mining industry dividends distributed to HDSA participants

The industry has to date paid out dividends of R47 331 million to BEE parties, which amounts to 19.6% of the total dividends paid by the industry over the period. Of the dividends paid to the BEE beneficiaries, R 11 375 million was used to service the debt on the transactions with the balance having been paid in the form of trickle dividends to the BEE parties.

In our analysis, we noted instances where as part of the lock-in provisions, the BEE parties receive guaranteed payments in lieu to cover costs for purposes of maintaining the BEE structures. In many instances, these payments were made despite the performance of the companies. In other structures, we have noted instances where the entity uses 100% of its dividends to service the debt. However, the BEE beneficiary would retain a portion of their dividend, thus ensuring that the duration of the debt is reduced.

It is important to highlight, that relative to other industries, the mining industry remains a capital intensive industry, with lengthy (+10yrs) pay-back profiles. Cash flow generation determines companies' abilities to declare dividend, within the context of sustaining operations. A longer term view of the industry will likely highlight that the industry will be less likely to maintain the dividend payment levels seen over the previous period, given lower level of commodity prices and industry profitability.

The proportion of dividends paid to HDSA versus total company dividends is 19.6% over the period. The analysis above notes that where companies above have done their deal on units of production the BEE beneficiaries would not have been entitled to dividends. Cognisance needs to be taken that in the period analysed there were changes in ownership which would have affected the dividends to BEE beneficiaries including exit of the structure, rights issues and the reality that for the period until 2009 the requirement was 15% and thus for a lengthy period during the analysis the dividends would have been received by a lower proportion.

Please also note that the table below does NOT take into account net cash realised by the BEE parties following exit and value realisation of concluded BEE transactions. The analysis below is based on the company submissions to the DMR.

**Figure 18: Total HDSA dividends**

|                       | Dividends                        |                                      |                                    |                    |
|-----------------------|----------------------------------|--------------------------------------|------------------------------------|--------------------|
|                       | Overall Dividends declared (RM') | Dividends to BEE beneficiaries (RM') | Dividends to payoff BEE loan (RM') | Dividends to BEE % |
| Coal                  | 30 372                           | 11 708                               | 4 840                              | 39%                |
| Iron ore              | 93 613                           | 20 810                               | 2 686                              | 22%                |
| Manganese ore         | 2 866                            | 493                                  | 234                                | 17%                |
| Diamonds              | 9 035                            | 2 278                                | 2 176                              | 25%                |
| PGM                   | 94 384                           | 9 642                                | 999                                | 10%                |
| Gold                  | 3 986                            | 781                                  | 440                                | 20%                |
| Chrome                | 7 594                            | 1 619                                | -                                  | 21%                |
| <b>Total Industry</b> | <b>241 850</b>                   | <b>47 331</b>                        | <b>11 375</b>                      | <b>19.6%</b>       |

Source: Companies DMR submissions, SNG and Chamber of Mines analysis

Please note that in the analysis above 17 companies (50%) did not submit dividend information.

*Whilst a significant amount of trickle dividends were paid to beneficiaries (c.R47bn as per the DMR submissions), the pay-off profile of BEE transactions was impacted by the capital intensive nature of the mining industry*

## Transactions and net values

(A measure of meaningful economic participation – cash flows, debt and dividends).

In the DMR template submission, various BEE transaction and value information was requested. Based on the company submissions, we have collated this information as the companies have provided it. In the table below, the columns indicated with an '\*' represent the DMR requested information. The other columns, specifically the net value column, represent analysis applied to submitted data.

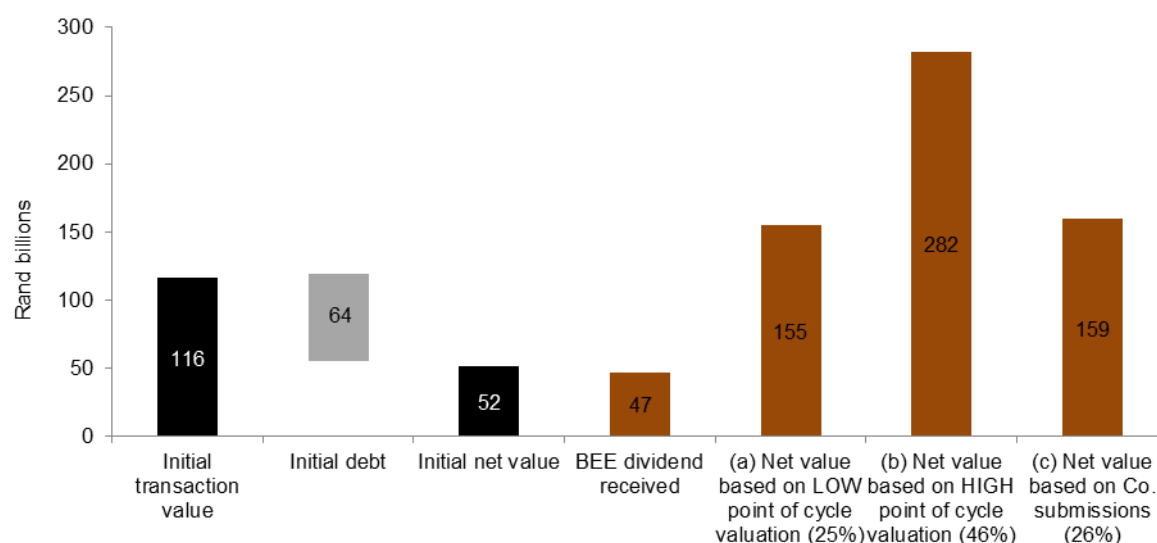
Companies have applied varying assumptions in terms of current value, or elected to not disclose it. A high and low net value was used to estimate the range of value creation based on differing assumptions.

There are three current net values indicated in the graph and tables:

- Low cycle valuation methodology - value created represents 25% of the total average mining industry value.
- High cycle valuation methodology - value created representing 46% of the total average mining industry value.
- Based on companies' valuations as submitted to the DMR - value created representing 26% of total average industry value.

*In aggregate, industry implemented ownership transactions worth an estimated R116 billion, based on Chamber submissions analysed*

**Figure 19: Representation of economic value created over the period**



Source: SNG, RMB and Chamber of Mines analysis

The value of initial transactions amount to R116 billion, which represents approximately 85% of total industry transactions concluded for the period. From the initial transaction value, debt is subtracted in calculating a net value. We caution that certain companies may have elected not to disclose the debt amounts, and these figures should be considered on that basis.

Based on the actual transaction values over the last 14 years, the initial net value was R 51 859 million which amount represented the initial equity value at inception of the transaction which would have been created as a result of entry discounts and other factors.

As at 31 December 2014 the total net value created was between R 155 320 million and R 282 018 million representing a change of between 200% (a two times increase in value) and 444% (almost a five times increase in value). The value creation is a function of volatility in production prices and other qualitative factors, which drives the performance on the JSE and the return to shareholders. The value creation is further impacted by debt in terms of the structuring and the timing of the transaction.

Figure 20: Initial and current values

| Sector                          | Initial values                       |                                 |                             | Current values                                |                                                |                                                      |                                   |                                       |                                        |                                             |
|---------------------------------|--------------------------------------|---------------------------------|-----------------------------|-----------------------------------------------|------------------------------------------------|------------------------------------------------------|-----------------------------------|---------------------------------------|----------------------------------------|---------------------------------------------|
|                                 | Initial BEE Transaction Value ('Rm)* | Initial loan value (BEE) ('Rm)* | Initial BEE net value ('Rm) | (a) Current transaction value (BEE) ('Rm) Low | (b) Current transaction value (BEE) ('Rm) High | (c) Current transaction value (BEE) Companies ('Rm)* | Current loan balance (BEE) ('Rm)* | (a) Current net value (BEE) ('Rm) Low | (b) Current net value (BEE) ('Rm) High | (c) Current net value (BEE) Companies ('Rm) |
| Coal                            | 27 423                               | 19 126                          | 8 297                       | 34 016                                        | 59 528                                         | 57 153                                               | 16 884                            | 17 132                                | 42 644                                 | 40 269                                      |
| Iron ore                        | 13 823                               | 3 833                           | 9 990                       | 49 681                                        | 99 363                                         | 37 253                                               | 2 157                             | 47 525                                | 97 206                                 | 35 096                                      |
| Manganese ore                   | 3 850                                | 3 850                           | -                           | 7 136                                         | 14 272                                         | 5 447                                                | 6 142                             | 994                                   | 8 130                                  | (695)                                       |
| Diamonds                        | 5 094                                | 3 709                           | 1 385                       | 4 674                                         | 9 348                                          | 6 026                                                | 4 160                             | 514                                   | 5 188                                  | 1 866                                       |
| PGM                             | 48 235                               | 27 101                          | 21 135                      | 49 599                                        | 72 144                                         | 54 347                                               | 14 799                            | 34 799                                | 57 344                                 | 39 547                                      |
| Gold                            | 14 255                               | 3 802                           | 10 452                      | 18 309                                        | 32 040                                         | 6 955                                                | 114                               | 18 195                                | 31 926                                 | 6 841                                       |
| Chrome                          | 3 572                                | 2 972                           | 600                         | 3 418                                         | 6 835                                          | 3 685                                                | 3 213                             | 205                                   | 3 623                                  | 472                                         |
| <b>Total SA mining industry</b> | <b>116 253</b>                       | <b>64 394</b>                   | <b>51 859</b>               | <b>166 833</b>                                | <b>293 530</b>                                 | <b>170 866</b>                                       | <b>47 469</b>                     | <b>119 364</b>                        | <b>246 061</b>                         | <b>123 397</b>                              |

Source: SNG and Chamber of Mines analysis

We have included the aggregate net value of dividends as discussed in the previous section to derive the total value created over the period in the table below, which indicates the value increase range of 200% to 444%.

Figure 21: Dividends and total values

| Sector                          | Dividends                                                 |                                                     |                                                        | Total values            |                             |                               |                          |                              |                                |                               |                                   |                                     |
|---------------------------------|-----------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------|-------------------------|-----------------------------|-------------------------------|--------------------------|------------------------------|--------------------------------|-------------------------------|-----------------------------------|-------------------------------------|
|                                 | Value of overall dividends declared by the company ('Rm)* | Value of dividends paid to BEE beneficiaries ('Rm)* | Value of dividends paid to service the BEE loan ('Rm)* | (a) Total BEE value Low | (a) Change in net value Low | (a) Change in net value % Low | (b) Total BEE value High | (b) Change in net value High | (b) Change in net value % High | (c) Total BEE value Companies | (c) Change in net value Companies | (c) Change in net value % Companies |
| Coal                            | 30 372                                                    | 11 708                                              | 4 840                                                  | 24 000                  | 15 703                      | 189%                          | 49 512                   | 41 215                       | 497%                           | 47 136                        | 38 840                            | 468%                                |
| Iron ore                        | 93 613                                                    | 20 810                                              | 2 686                                                  | 65 649                  | 55 659                      | 557%                          | 115 330                  | 105 340                      | 1054%                          | 53 220                        | 43 230                            | 433%                                |
| Manganese ore                   | 2 866                                                     | 493                                                 | 234                                                    | 1 253                   | 1 253                       | 100%                          | 8 389                    | 8 389                        | 100%                           | (436)                         | (436)                             | 100%                                |
| Diamonds                        | 9 035                                                     | 2 278                                               | 2 176                                                  | 616                     | (769)                       | -56%                          | 5 290                    | 3 905                        | 282%                           | 1 968                         | 583                               | 42%                                 |
| PGM                             | 94 384                                                    | 9 642                                               | 999                                                    | 43 442                  | 22 308                      | 106%                          | 65 987                   | 44 853                       | 212%                           | 48 190                        | 27 056                            | 128%                                |
| Gold                            | 3 986                                                     | 781                                                 | 440                                                    | 18 535                  | 8 083                       | 77%                           | 32 267                   | 21 814                       | 209%                           | 7 182                         | (3 271)                           | -31%                                |
| Chrome                          | 7 594                                                     | 1 619                                               | -                                                      | 1 824                   | 1 224                       | 204%                          | 5 242                    | 4 642                        | 774%                           | 2 091                         | 1 491                             | 249%                                |
| <b>Total SA mining industry</b> | <b>241 850</b>                                            | <b>47 331</b>                                       | <b>11 375</b>                                          | <b>155 320</b>          | <b>103 461</b>              | <b>200%</b>                   | <b>282 018</b>           | <b>230 159</b>               | <b>444%</b>                    | <b>159 353</b>                | <b>107 494</b>                    | <b>207%</b>                         |

Source: SNG, RMB and Chamber of Mines analysis



## Net value comparison to DMR submissions

As indicated in section 4 of this document there were companies that didn't provide their current values in their submission to the DMR. Should the valuation be excluded in the analysis the value realisation discussed on page 22 would be demonstrated below:

**Figure 22: Initial and current values**

|                          | Initial values                       |                                 |                             | Current values                                |                                                |                                                      |                                   |                                       |                                        |                                             |
|--------------------------|--------------------------------------|---------------------------------|-----------------------------|-----------------------------------------------|------------------------------------------------|------------------------------------------------------|-----------------------------------|---------------------------------------|----------------------------------------|---------------------------------------------|
|                          |                                      |                                 |                             | (a) Current transaction value (BEE) ('Rm) Low | (b) Current transaction value (BEE) ('Rm) High | (c) Current transaction value (BEE) Companies ('Rm)* | Current loan balance (BEE) ('Rm)* | (a) Current net value (BEE) ('Rm) Low | (b) Current net value (BEE) ('Rm) High | (c) Current net value (BEE) Companies ('Rm) |
| Sector                   | Initial BEE Transaction Value ('Rm)* | Initial loan value (BEE) ('Rm)* | Initial BEE net value ('Rm) |                                               |                                                |                                                      |                                   |                                       |                                        |                                             |
| Coal                     | 23 797                               | 15 543                          | 8 254                       | 23 935                                        | 41 886                                         | 57 153                                               | 16 815                            | 7 120                                 | 25 071                                 | 40 338                                      |
| Iron ore                 | 13 823                               | 3 833                           | 9 990                       | 49 681                                        | 99 363                                         | 37 253                                               | 2 157                             | 47 525                                | 97 206                                 | 35 096                                      |
| Manganese ore            | 3 850                                | 3 850                           | -                           | 5 846                                         | 11 692                                         | 5 447                                                | 6 142                             | (296)                                 | 5 550                                  | (695)                                       |
| Diamonds                 | 3 669                                | 3 709                           | (40)                        | 2 908                                         | 5 816                                          | 6 026                                                | 4 160                             | (1 252)                               | 1 656                                  | 1 866                                       |
| PGM                      | 47 635                               | 26 701                          | 20 935                      | 31 347                                        | 45 596                                         | 54 347                                               | 14 799                            | 16 548                                | 30 796                                 | 39 547                                      |
| Gold                     | 10 116                               | 1 353                           | 8 762                       | 9 701                                         | 16 976                                         | 6 955                                                | 114                               | 9 587                                 | 16 862                                 | 6 841                                       |
| Chrome,                  | 3 572                                | 2 972                           | 600                         | 3 418                                         | 6 835                                          | 3 685                                                | 3 213                             | 205                                   | 3 623                                  | 472                                         |
| Total SA mining industry | 106 463                              | 57 962                          | 48 501                      | 126 836                                       | 228 165                                        | 170 866                                              | 47 400                            | 79 436                                | 180 765                                | 123 466                                     |

Source: SNG and Chamber of Mines analysis

As at 31 December 2014 the total net value created was between R 115 084 million and R 216 413 million representing a change of between 137% (almost a one and a half times increase in value) and 246% (almost a three and a half times increase in value).

We have included the aggregate net value of dividends as discussed in the previous section to derive the total value created over the period in the table below, which indicates the value increase range of 137% to 346%.

**Figure 23: Dividends and total values**

|                          | Dividends                                                 |                                                     |                                                        | Total values            |                             |                               |                          |                              |                                |                               |                                   |                                     |
|--------------------------|-----------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------|-------------------------|-----------------------------|-------------------------------|--------------------------|------------------------------|--------------------------------|-------------------------------|-----------------------------------|-------------------------------------|
|                          | Value of overall dividends declared by the company ('Rm)* | Value of dividends paid to BEE beneficiaries ('Rm)* | Value of dividends paid to service the BEE loan ('Rm)* | (a) Total BEE value Low | (a) Change in net value Low | (a) Change in net value % Low | (b) Total BEE value High | (b) Change in net value High | (b) Change in net value % High | (c) Total BEE value Companies | (c) Change in net value Companies | (c) Change in net value % Companies |
| Sector                   |                                                           |                                                     |                                                        |                         |                             |                               |                          |                              |                                |                               |                                   |                                     |
| Coal                     | 26 240                                                    | 7 878                                               | 1 318                                                  | 13 680                  | 5 426                       | 66%                           | 31 631                   | 23 377                       | 283%                           | 46 897                        | 38 643                            | 468%                                |
| Iron ore                 | 93 613                                                    | 20 810                                              | 2 686                                                  | 65 649                  | 55 659                      | 557%                          | 115 330                  | 105 340                      | 1054%                          | 53 220                        | 43 230                            | 433%                                |
| Manganese ore            | 2 866                                                     | 493                                                 | 234                                                    | (37)                    | (37)                        | 100%                          | 5 809                    | 5 809                        | 100%                           | (436)                         | (436)                             | 100%                                |
| Diamonds                 | 9 035                                                     | 2 278                                               | 2 176                                                  | (1 150)                 | (1 110)                     | 2785%                         | 1 758                    | 1 798                        | -4512%                         | 1 968                         | 2 008                             | -5039%                              |
| PGM                      | 94 384                                                    | 9 642                                               | 999                                                    | 25 191                  | 4 256                       | 20%                           | 39 439                   | 18 505                       | 88%                            | 48 190                        | 27 256                            | 130%                                |
| Gold                     | 1 966                                                     | 341                                                 | -                                                      | 9 927                   | 1 165                       | 13%                           | 17 203                   | 8 440                        | 96%                            | 7 182                         | (1 581)                           | -18%                                |
| Chrome                   | 7 594                                                     | 1 619                                               | -                                                      | 1 824                   | 1 224                       | 204%                          | 5 242                    | 4 642                        | 774%                           | 2 091                         | 1 491                             | 249%                                |
| Total SA mining industry | 235 698                                                   | 43 060                                              | 7 413                                                  | 115 084                 | 66 583                      | 137%                          | 216 413                  | 167 912                      | 346%                           | 159 114                       | 110 613                           | 228%                                |

Source: SNG, RMB and Chamber of Mines analysis

Please note that in the analysis above 12 companies (35%) did not submit their current value information.

## Comparison to other sectors

Comparison with other sectors would make a good start to benchmark how the mining industry has performed. The financial services sector is one sector that has reached a critical milestone where its performance in terms of its industry charter will be assessed. The sector has generally been praised for having created meaningful value transfer for its beneficiaries.

The Financial Services Sector Charter required direct BEE ownership of 10% (as opposed to the Mining Charter's 26%). Although the transaction size was small, these transactions included exposure to international operations as opposed to mining companies who mostly empowered only South African based assets.

The financial services sector delivered value to beneficiaries of approximately R60 billion. This value was created by companies with an aggregate market capitalisation of approximately R1 trillion. Value created translates to approximately 6% empowerment on the basis of the current market capitalisation.

*Transactions which have matured in the financial services sector have delivered an estimated R60 billion worth of value to beneficiaries*

## 4. Funding structures and cycle timing

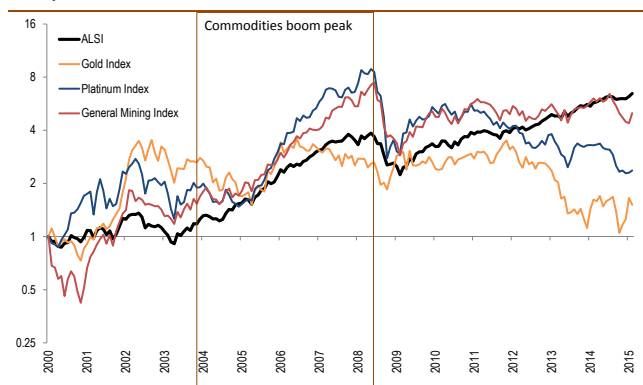
### Overview of the performance of the market and mining sector since 2000

From 2000 to 2015, we have seen a period of exceptional high volatility for the Resources sector globally. The overall period's price and valuation moves were heavily influenced by China's exceptional growth rates and intense capital investment cycle. In the years until 2008, this major global demand driver was a strong underpin for commodity prices, which, however, were pushed to unrealistic levels on the back of low interest rates, low inflation rates and loose monetary policy in some of the world's major developed economies. Towards the latter part of the price peak cycle, significant investment flows into commodity funds further pushed commodity prices to unsustainable levels.

This period unfortunately also created a significant misallocation of capital within the global resources industry, in the form of excessive organic growth based on unrealistic long-term assumptions, overpriced mergers and acquisitions, and heavy project capital over-runs. Furthermore, costs in the industry started rising dramatically, partially as a result of relative scarcity of skills, equipment, etc., as well as opportunistic supplier pricing and increased host country expectations. Following the 2008 correction, the industry has paid a heavy price in the following years in the form of impairments that are now well in excess of US\$100 billion globally.

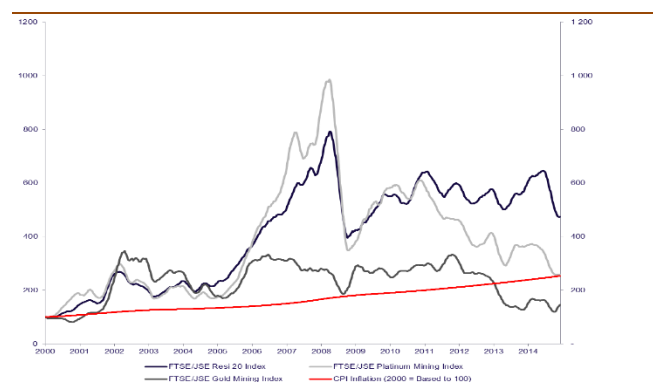
*The global resources boom and bust cycle impacted the outcome of Mining Charter compliance efforts*

**Figure 24: Mining equity indices performance vs ALSI (rebased in 2000)**



Source: I-Net Bridge and Momentum Investment Managers

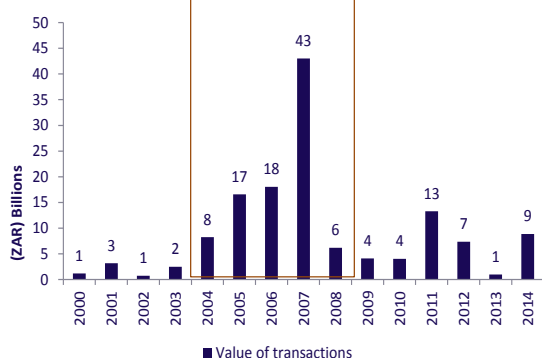
**Figure 25: Mining equity performance vs Inflation**



Source: RMB and I-Net Bridge

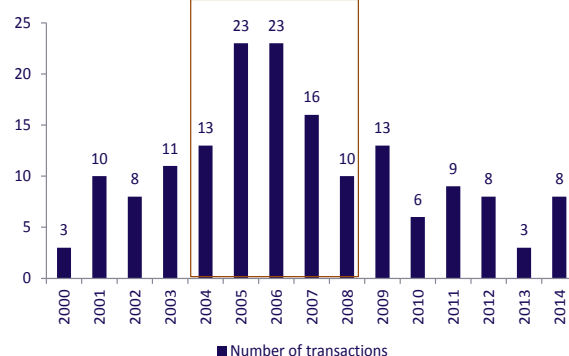
The consequence of the above was that the full global resources boom and bust cycle was replicated in South Africa over the 2004-2014 Charter implementation period. As a result, the outcomes for a wide range of industry efforts in achieving Charter compliance has, depending on timing, resulted in radically different outcomes from a net value perspective. This has made measurement of such outcomes at a specific point in time, depending on cycle level and momentum, challenging to say the least.

Figure 26: BEE transactions by value (R billions)



Source: RMB and Deal Makers Online

Figure 27: BEE Transactions by volume (no. of transactions)



Source: RMB and Deal Makers Online

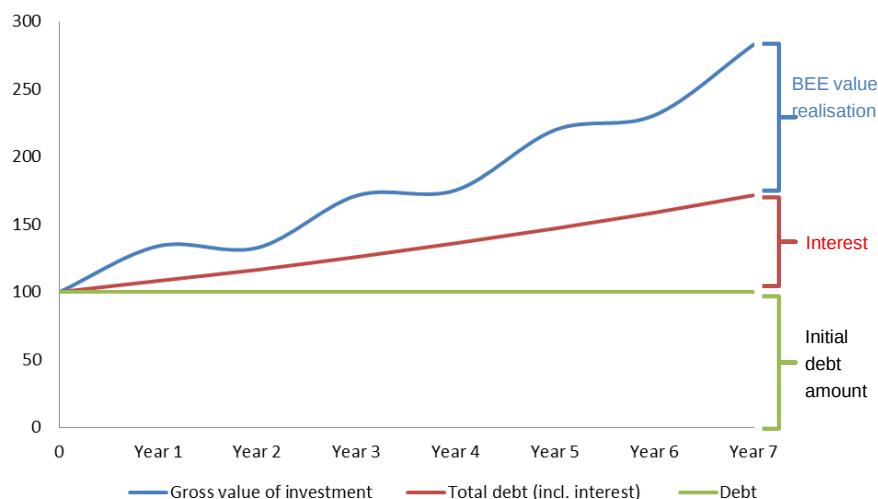
From inception, industry's key concern has been the economic impact of facilitating the transfer of the required equity ownership to BEE groups, given these groups lack of capital. This remains a fundamental macro issue for BEE as there is clearly insufficient capital to fund the transfer of 26% of the economy as a whole to BEE parties. To achieve the empowerment objectives, companies therefore generally chose the route of selling shareholding interests to BEE compliant entities instead of transferring shares without value.

*Most BEE transactions depended on the performance of the underlying to deliver value to beneficiaries*

### BEE value realisation in a simplified world and a modestly volatile industry

In a simplified world, and assuming a modestly volatile but growing industry, putting together a BEE transaction with a reasonably certain value realisation upon vesting seems relatively straightforward. Net value realisation will largely depend on the growth in value of the investment outstripping the compound interest rate on the debt over the period.

Figure 28: Simplified BEE value realisation



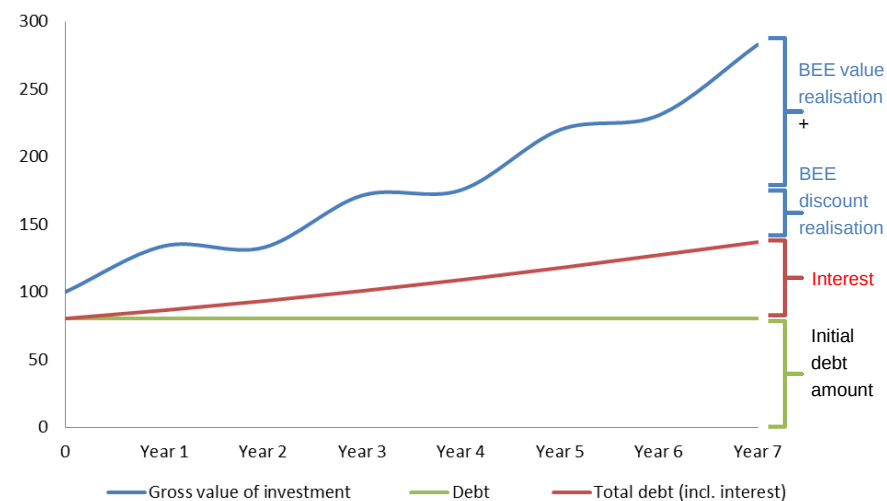
Source: RMB

In the simplified diagram above, it is illustrated how a typical transaction commencing in Year 0, and assuming no servicing of debt nor interest over the period, and ignoring dividend payments by the company, would realise value in Year 7, assuming the underlying company's performance over the period would be in excess of the compound interest of the debt over the period. In the above example, if the company would show a compound growth rate of 16% per annum vs interest charged on the debt at an assumed 8%, the BEE party's net value realised after settlement of debt and interest would be some 112 (with essentially no upfront equity provided by the BEE party).

If the company above furthermore introduces some form of facilitation, in the example below through the form of an upfront discount offered of, say 20%, potential returns for the BEE party could be further enhanced. This offers the benefit of a lower upfront debt amount, and a lower compound interest amount as a result at the time of value realisation. Again assuming no servicing of debt, interest nor dividend payments, and similar compound growth rates as the earlier example, this results in a BEE value realised of some 146, or a 30% enhancement over the earlier example.

*Timing of when the BEE transaction was implemented or matured was a significant factor impacting the outcome*

**Figure 29: Simplified BEE value realisation with upfront discount**

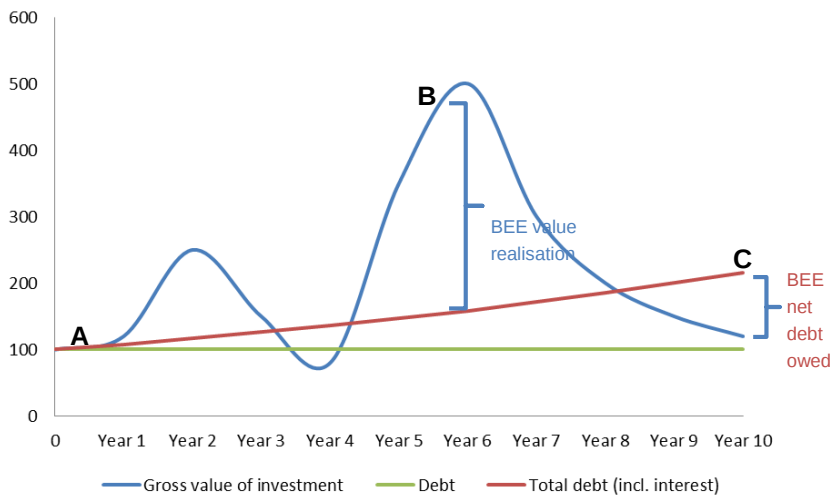


Source: RMB

### Structuring around BEE value realisation in volatile industry

The above examples provide an ideal picture – unfortunately, creating sustainable BEE transactions within a very volatile industry (both from a cash flow and value perspective) is far more challenging. The graphs below use two examples to illustrate this:

**Figure 30: Illustrative impact of when transaction matures**



Source: RMB

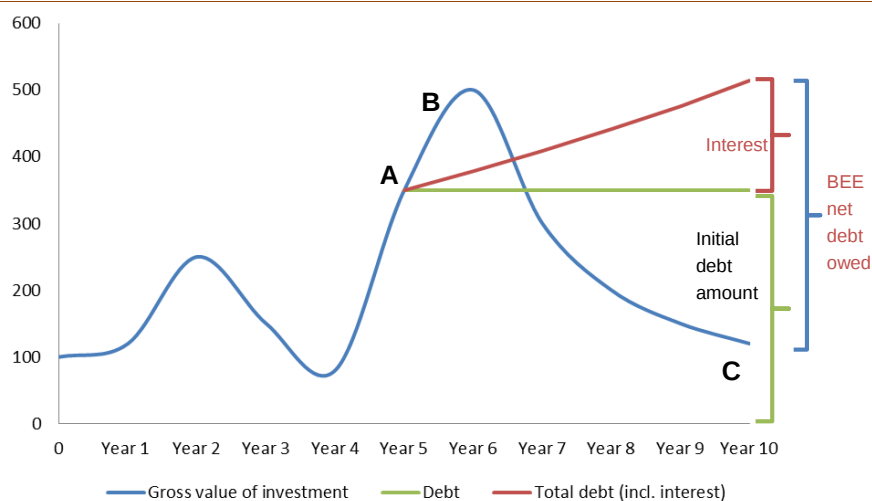
As indicated above, the pay-out profile of a transaction that is concluded in point A will have a different pay-out depending on which point it unwinds (point B or C in Figure 23). A transaction that matures at point B in the commodity cycle, e.g., the Kumba Envision I employee scheme, which was implemented at low iron ore price levels and matured at the highest point of the iron ore price performance, resulted in an outperforming transaction in terms of the value transferred to employees. This was due to the compounded growth in value being far greater than the funding rate at which the facilitated funding rolled up.

In contrast, a transaction that matures at point C, e.g. Aquarius Platinum's transaction where the transaction accumulated great value up until point B but all that value was lost when the transaction matured at point C, wherein the underlying performance of the company and the greater PGM industry was hindered due to the commodity price bust.

The above graphs illustrate how similar transactions could have different outcomes depending on the point at which the transactions matured in the commodity cycle.

A potentially far worse outcome can be created when transactions have been completed at significantly higher valuations during the boom period. This is illustrated below, where transaction A has now been concluded at a significantly richer price. As a result, the debt quantum raised had to be significantly higher, with resultant higher interest servicing costs. Although some value was created at point B, often as a result of either funding restraints or lock-in provisions, no exit was possible at this point. As a result of the cycle correction, such transactions have resulted in significantly under-water valuations for the BEE parties involved at point C. Should the commodities cycle still be depressed at maturity, they offer no likelihood of value realisation at this point.

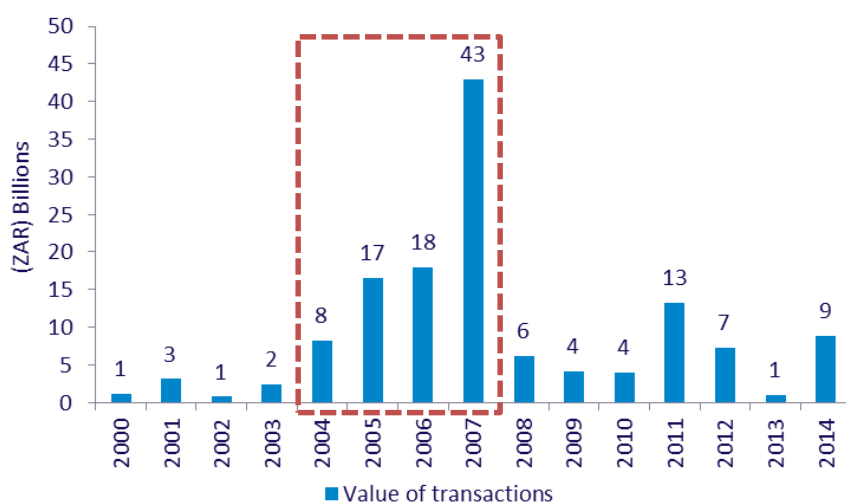
*Transactions implemented at the peak of the cycle are unlikely to have created value for the beneficiaries and require longer investment periods*

**Figure 31: Illustrative impact of when transaction matures**

### Impact of BEE transaction timing 2000-2015

As shown in the preceding section, in a volatile industry, success or failure of BEE value creation is strongly dependent on point in the cycle when the transaction is initiated.

As illustrated in Figure 25, a large number of BEE transactions were concluded during the commodities boom cycle between 2004 and 2008. Transactions concluded during this period include, *inter alia*, Anglo Coal, Exxaro, Implats, Lonmin, and Richards Bay Minerals. This is the period during which most of the BEE transactions in the PGM sector were concluded as well.

**Figure 32: Value of BEE transactions – SA mining industry 2000-2014**

Source: Dealmakers Online

Given the associated facilitation cost involved in setting up a BEE structure, it is largely during the boom cycle that many companies, generally, find it affordable to implement BEE transactions. Not only were these transactions dependent on the underlying financing structure but also the continued performance of the market.

Given the lock-in provisions that are usually associated with most BEE transactions, most of the transactions matured or are maturing in a far more subdued pricing environment. Whilst some of the BEE parties saw some wealth during the peak points in the commodities cycle, most of this value was destroyed when the cycle turned. Many BEE transactions were, however, subject to lock-in restrictions, constraining value realisation at a more appropriate time in the cycle.

Whilst there has been a lot of value created for BEE participants post the introduction of the Mining Charter, it is worth noting that BEE transactions, which were concluded prior to the promulgation of the legislation, largely resulted in sustainable black operated companies.

### Funding structures conundrum – BEE transaction implementation impact

From a financier's perspective, matching the correct risk/reward profile was often challenging. In BEE transactions, financiers typically only had recourse against the shares that were being funded for recovery of the loan. Financiers were therefore exposed to share price decreases, which could result in losses if insufficient value existed to settle the loan. These risks were the same as if the financier owned the shares himself, although the return was limited to a fixed interest rate, while if the shares had been bought outright, the downside risk would have been balanced by full exposure to the upside of the share.

To overcome this challenge, financiers required a 'cover level', i.e. a value buffer able to absorb initial losses arising from share price decreases before loan losses occurred. Only with these cover levels or buffers did a fixed return begin to compensate the financier for the risk inherent in share cover lending.

The obvious source of these buffers was equity introduced into a funding structure by the prospective BEE party. Typically, this would have needed to account for c.66% to 75% of the purchase price to allow the financier a share cover (defined as value of shares divided by outstanding debt) of between 3 and 4 times. In light of the objectives of BEE, the prospective BEE parties typically did not have access to such funds.

The lack of capital resulted in the design of innovative funding solutions to provide capital resources to finance BEE transactions, which almost exclusively required the empowering company to bridge the gap described above, in what is typically referred to as 'facilitation'.

Facilitation had multiple forms, but all were designed to overcome the challenge of raising third party debt finance for a full value purchase price of shares. In the transactions completed in the Resources sector, facilitation took the form of one or more of the following:

- *Upfront discount on BEE shares*

If shares were sold to BEE parties at below market value, the discount equated to an equity injection into the funding structure. This provided a buffer to third party financiers up to the amount of the discount. For example, if shares worth R100 were sold for R90, the market price could decrease by R10 before risking loss to the financier.



■ *Issue of free shares to guarantee a minimum amount of vesting*

Free shares had the obvious benefit of not requiring external funding. In addition, they allowed BEE parties to borrow funds using them as collateral and to acquire further shares (possibly at a discount), thereby increasing the overall level of BEE ownership. Third party funding in these instances was possible as the free shares acted as an equity issuance into the BEE structure providing a buffer for financiers.

■ *Vendor financing*

As described above, commercial financiers would not be able to provide all the required funding without facilitation, as the resulting risk/reward profile would typically not have been commercial. In many instances, companies chose to provide funding to the BEE parties for the full purchase price on favourable terms. Notwithstanding the funding challenges described above, companies provided facilitation by accepting the skewed risk/reward profile resulting from receiving a subsidised debt return in exchange assuming the full downside equity risk. The structures typically resulted in a 'free-option' profile granted to BEE beneficiaries by the companies in that all the upside over a certain debt return accrued to the BEE parties and the companies bore the full downside risk.

■ *Guarantee in respect of BEE funding*

In many transactions, third party funding for the acquisition of BEE shares was provided with full recourse to the company through a payment guarantee. Such a guarantee served to overcome the share cover limitations discussed above by giving financiers access to the company's balance sheet should the value of the BEE shares be insufficient to settle the loans. As for vendor loans, the facilitation took the form of assuming full downside risk while foregoing any equity return on the BEE shares. Variations of this facilitation included the provision of put options to financiers over the BEE shares, which allowed the financiers to sell the share back to the company at a pre-agreed minimum price, which would typically have been set at the price required to fully settle the debt.

■ *Cash flow underpin*

Another challenge faced by third party financiers in BEE transactions was the ability of BEE parties to service interest on the loans. In the Mining sector, dividend payments have tended to be volatile given the many variables mining companies are faced with. To mitigate this risk, many companies provided certainty to financiers by guaranteeing a minimum fixed cash flow profile to the BEE parties allowing them to service their loans. These cash flow underpins took the form of preferred ordinary dividends or dividend-for-interest swaps on BEE shares. These structures ensured that even if other ordinary shareholders were not receiving dividends, or were receiving lower dividends, cash flows to BEE parties continued.

The various forms of facilitation all provided different levels of support, and were often used in combination. The chart below plots these facilitation forms on a facilitation continuum, which ranges from 'soft facilitation' to 'hard facilitation'.

Figure 33: BEE facilitation continuum



Source: RMB, Chamber of Mines analysis

Generally, the facilitation norm for most BEE transactions averaged between 25% and 30% of transaction value. Therefore using the value of BEE transactions concluded in the Mining sector (i.e. c.R138 billion), the estimated minimum facilitation value provided by industry could be between R35 billion and R40 billion. Although this facilitation level would not necessarily translate into value transferred, this shows the level of commitment the industry had in putting in place what they considered to be robust BEE funding structures at the time.

### Cumulative facilitation provided by industry

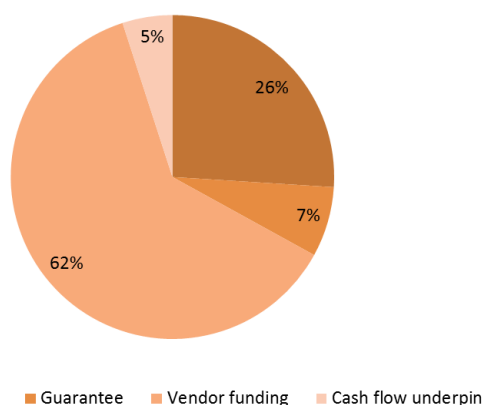
As discussed above, a wide range of facilitation options have been applied to create sustainable and particularly fundable BEE transactions within the industry over the past 14 years. Due to the extreme cycles the industry has experienced, facilitation/funding models have often had to be adjusted during the terms of a transaction.

In the graph below, we show an overview of the industry facilitation forms provided by industry over the period. It should be noted, however, that:

- The data used for this analysis was extracted from the company's detailed presentations on their BEE transactions.
- Due to the diverse nature of facilitation, it is impossible to sum the different forms of facilitation. Therefore, no cumulative number is provided.
- This does not provide a comprehensive picture, as either (1) certain forms of facilitation have been considered confidential (either as a result of funding structures or discounts provided), and (2) not all forms of facilitation can be easily captured/calculated, particularly when involving option value.

Figure 34 indicates that the main form of facilitation provided by mining companies was in the form of vendor facilitation followed by an entry discount.

**Figure 34: Funding facilitation**



Source: RMB analysis

## 5. Sector analysis

### PGM

#### Ownership results

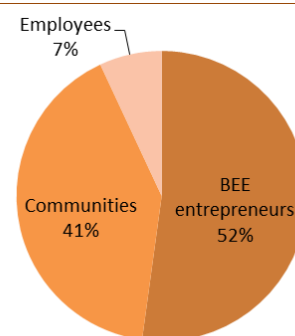
The PGM sector has achieved BEE ownership of 39.5% (19.5% BEE entrepreneurs, 18.0% communities and 2.0% ESOPs) based on value. The ownership structure has benefited 49% BEE entrepreneurs, 46% communities and 5% ESOPs, and an estimated 2 774 493 individuals. In terms of volumes, the industry has achieved a BEE ownership of 38.0% (19.8% BEE entrepreneurs, 15.5% communities and 2.6% ESOPs). The ownership structure has benefited 52% BEE entrepreneurs, 41% communities and 7% ESOPs. The PGM sector has a total net value of between R 43 442 million and R 65 987 million representing a change of between 109% and 212%.

Figure 35: PGM HDSA overall contribution

|                         | Total HDSA  | BEE entrepreneurs | Communities | ESOPs      |
|-------------------------|-------------|-------------------|-------------|------------|
| <b>By value (%)</b>     |             |                   |             |            |
| Current                 | 36.4        | 18.0              | 16.5        | 1.8        |
| Continuing consequences | 3.1         | 1.6               | 1.4         | 0.2        |
| <b>Total</b>            | <b>39.5</b> | <b>19.5</b>       | <b>18.0</b> | <b>2.0</b> |
| <b>By volume (%)</b>    |             |                   |             |            |
| Current                 | 33.3        | 17.4              | 13.6        | 2.3        |
| Continuing consequences | 4.6         | 2.4               | 1.9         | 0.3        |
| <b>Total</b>            | <b>38.0</b> | <b>19.8</b>       | <b>15.5</b> | <b>2.6</b> |
| <b>Participants</b>     |             |                   |             |            |
| No of structures        | 26.0        | 11.0              | 4.0         | 11.0       |
| No of individuals       | 2 774 493   | 11.0              | 2 669 482   | 105 000    |

Source: SNG and Chamber of Mines analysis

Figure 36: PGM HDSA component contribution



Source: SNG and Chamber of Mines analysis

Figure 37: PGM assets forming part of the BEE calculations

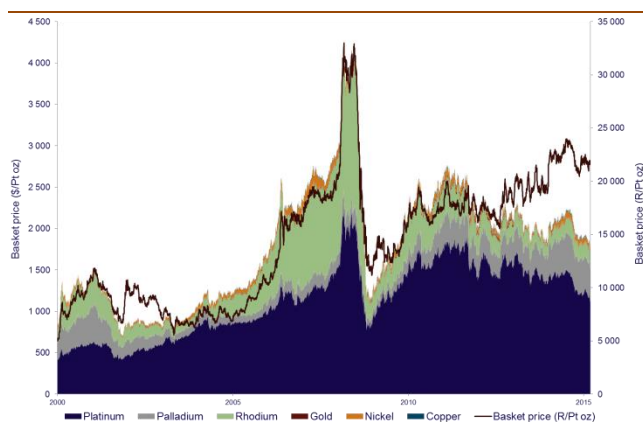
| Asset                                                                                                                              | Volume % contribution to sector | Mining companies                                                               |
|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------------|
| Anglo Plat (Atlatsa, Rustenburg, Amandelbult, Mogolakwa, Twickenham, Western Limbs ops, DerBrochen, Union Mine, Modikwa, Mototolo) | 40.2                            | Anglo American Platinum, Atlatsa Resources, African Rainbow Minerals, Glencore |
| Impala (Impala Lease, Two Rivers, Marula, Leeuwkop)                                                                                | 25.7                            | Impala Platinum                                                                |
| Lonmin (East Plats, West Plats)                                                                                                    | 14.8                            | Lonmin Platinum                                                                |
| AQP (Kroondal)                                                                                                                     | 7.5                             | Aquarius Platinum, Anglo American Platinum                                     |
| RBP (Boschkoppie, Styldrift)                                                                                                       | 4.9                             | Royal Bafokeng Holdings, Anglo Platinum                                        |
| NHM (Zondereinde, Booyseendal)                                                                                                     | 7.0                             | Northam Platinum                                                               |

Source: Company reports, SNG, Chamber of Mines

## Market dynamics

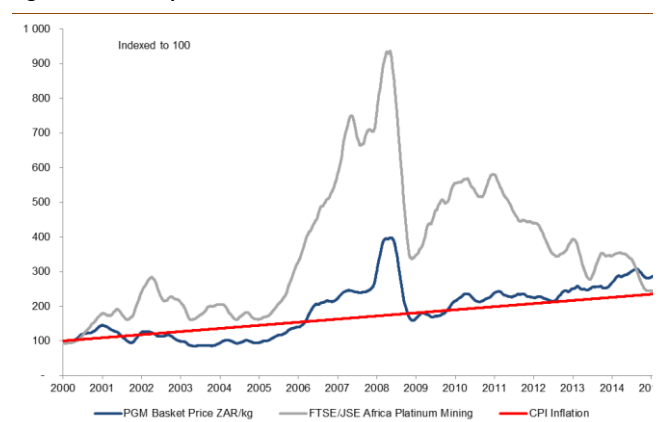
The key revenue drivers for the PGM industry are platinum, palladium, rhodium and gold prices (4E metals), representing in general some 85-90% of the income for the bulk of the industry. The PGM industry experienced a rapid rise in profitability in the late-1990s and early-2000s, followed by the unsustainable 2005-2008 price rally, particularly driven by spiking platinum and rhodium prices. Over this period, a wide range of new players entered the industry, and significant capital was spent in opening up new ore bodies and expanding the industry production base. Unfortunately, the combination of a 'normalisation' in prices, more subdued demand, together with a sharply higher cost base for the industry, has resulted in an industry where currently few companies are remaining cash flow positive. This has already resulted in a range of closures (i.e. Platinum Australia, Blue Ridge, Everest, Marikana), as well as general capital curtailment.

Figure 38: PGM basket price – \$/Pt oz and R/oz



Source: Bloomberg, RMB

Figure 39: PGM performance on JSE



Source: Bloomberg, RMB

The aggressive price rally over the period until 2008 was replicated on the JSE, with the PGM sector strongly outperforming over the period 2005-2008 in particular. Unfortunately, as shown above, the net performance over the 2000-2015 has barely matched CPI over the period. As a result of the very volatile industry dynamics over the 2004-2014, many companies have experienced challenges in creating sustainable equity transactions for a range of reasons:

- Unrealistic long-term price expectations during the boom period, over which a range of BEE deals were concluded, locking-in asset transactions at relatively rich valuations.
- Excessive unit cost inflation across the industry in the boom times, which has been shown to be sticky, even in a much more modest price environment, suppressing margins.
- The collapse in rhodium prices has put significant stress on (rhodium rich) lower grade UG2 transactions/companies.
- Significant curtailment of dividends in the industry, as a result of sharply reduced margins, large stay-in-business capital requirements at the older and deeper orebodies, as well as significant business interruptions (strikes, Section 54s, power curtailments).
- Loss of support from foreign shareholders due to industry's increasingly tougher challenges, worsened by South Africa's deteriorating reputation as a mining investment destination over the period. This has resulted in a serious deflation of market capitalisation across the sector, threatening a wide range of BEE transactions.

## Gold

## Ownership results

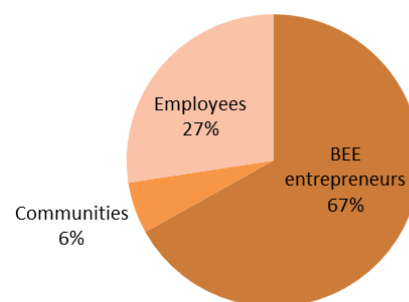
The Gold sector has achieved a BEE ownership of 28.8% (18.6% BEE entrepreneurs, 0.9% communities and 9.2% ESOPs) based on value. The ownership structure has benefited 65% BEE entrepreneurs, 3% communities and 32% ESOPs, and an estimated 135 109 individuals. In terms of volumes, the industry has achieved a BEE ownership of 27.3% (18.3% BEE entrepreneurs, 1.6% communities and 7.5% ESOPs). The ownership structure has benefited 67% BEE entrepreneurs, 6% communities and 27% ESOPs. The Gold sector has a net value of between R 7 182 million and R 32 267 million representing a change of between -31% and 209%.

**Figure 40: Gold HDSA overall contribution**

|                         | Total HDSA  | BEE entrepreneurs | Communities | ESOPs      |
|-------------------------|-------------|-------------------|-------------|------------|
| <b>By value (%)</b>     |             |                   |             |            |
| Current                 | 25.7        | 16.6              | 0.8         | 8.3        |
| Continuing consequences | 3.0         | 2.0               | 0.1         | 1.0        |
| <b>Total</b>            | <b>28.8</b> | <b>18.6</b>       | <b>0.9</b>  | <b>9.2</b> |
| <b>By volume (%)</b>    |             |                   |             |            |
| Current                 | 24.9        | 16.6              | 1.4         | 6.8        |
| Continuing consequences | 2.5         | 1.6               | 0.1         | 0.7        |
| <b>Total</b>            | <b>27.3</b> | <b>18.3</b>       | <b>1.6</b>  | <b>7.5</b> |
| <b>Participants</b>     |             |                   |             |            |
| No of structures        | 13.0        | 9.0               | 2.0         | 2.0        |
| No of individuals       | 135 109     | 9.0               | 60 000      | 75 100     |

Source: SNG and Chamber of Mines analysis

**Figure 41: Gold HDSA component contribution**



Source: SNG and Chamber of Mines analysis

**Figure 42: Gold assets forming part of the BEE calculations**

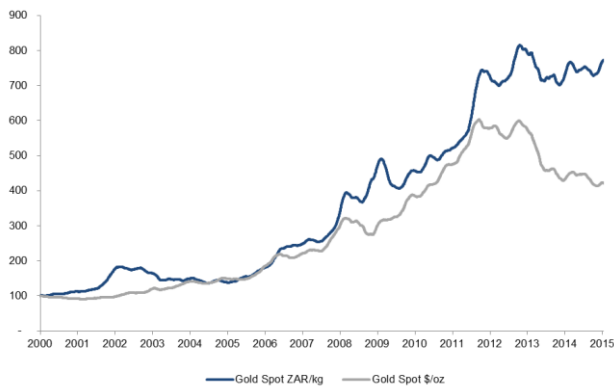
| Asset                           | Volume % contribution to sector | Mining companies  |
|---------------------------------|---------------------------------|-------------------|
| AngloGold Ashanti SA operations | 30.0                            | AngloGold Ashanti |
| Sibanye Gold                    | 39.0                            | Sibanye Gold      |
| South Deep                      | 4.9                             | Goldfields        |
| Harmony Gold SA operations      | 26.1                            | Harmony Gold      |

Source: Company reports, SNG, Chamber of Mines

## Market dynamics

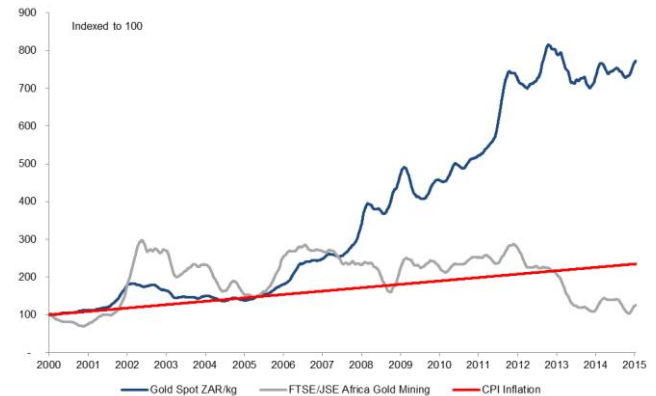
Gold prices rose from sub-300 US\$/oz prices at around 2000, peaking at around 1900 US\$/oz in September 2011. The Rand/kg price has risen nearly eight-fold over the period. As can be seen below, the South African gold industry has battled to materially translate this into shareholder value.

**Figure 43: Gold price – US\$/oz and Rand/kg**



Source: Bloomberg, RMB

**Figure 44: Performance on JSE**



Source: Bloomberg, RMB

The South African listed gold companies reflect a mix of South African and international gold assets. Over the period, the contribution of the mature South African production base has been consistently shrinking, while several of the companies have seen significant organic and acquisitive growth in their offshore portfolios. Creating sustainable BEE transactions within a mature and essentially shrinking production base has created particular challenges. The industry's history of rising real costs, flat to declining productivity, lower grades, sharply rising input costs (particularly power) has made it increasingly reliant on a rising Rand/kg gold price in order for it to achieve margins/dividend paying capacity. Unfortunately, despite a near eight-fold increase in the Rand/kg price over the period, the valuations of the gold companies have failed to beat CPI over the same period. This has put significant challenges on the industry in creating sustainable transactions. Also, the relative volatile performance of the industry has seen it particularly plagued by 'hit and run' transactions, posing particularly important questions around the 'once empowered always empowered debate'.

## Coal

### Ownership results

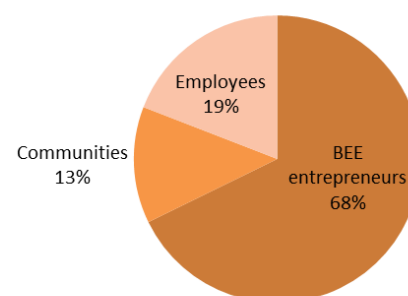
The Coal sector has achieved a BEE ownership of 43.9% (32.0% BEE entrepreneurs, 5.3% communities and 6.3% ESOPs) based on value. The ownership structure has benefited 74% BEE entrepreneurs, 12% communities and 14% ESOPs, and an estimated 1 753 087 individuals. In terms of volumes, the industry has achieved a BEE ownership of 47.2% (32.0% BEE entrepreneurs, 6.2% communities and 9.0% ESOPs). The ownership structure has benefited 68% BEE entrepreneurs, 13% communities and 19% ESOPs. The Coal sector has a net value of between R24 000 million and R 49 512 million representing a change of between 189% and 497%.

**Figure 45: Coal HDSA overall contribution**

|                         | Total HDSA  | BEE entrepreneurs | Communities | ESOPs      |
|-------------------------|-------------|-------------------|-------------|------------|
| <b>By value (%)</b>     |             |                   |             |            |
| Current                 | 41.0        | 30.2              | 4.9         | 5.8        |
| Continuing consequences | 2.9         |                   |             |            |
|                         |             | 2.1               | 0.3         | 0.4        |
| <b>Total</b>            | <b>43.9</b> | <b>32.3</b>       | <b>5.3</b>  | <b>6.3</b> |
| <b>By volume (%)</b>    |             |                   |             |            |
| Current                 | 31.1        | 21.1              | 4.1         | 6.0        |
| Continuing consequences | 16.1        |                   |             |            |
|                         |             | 10.9              | 2.1         | 3.1        |
| <b>Total</b>            | <b>47.2</b> | <b>32.0</b>       | <b>6.2</b>  | <b>9.0</b> |
| <b>Participants</b>     |             |                   |             |            |
| No of structures        | 24.0        | 13.0              | 6.0         | 5.0        |
| No of individuals       | 1 753 087   | 13.0              | 1 745 551   | 7 523      |

Source: SNG and Chamber of Mines analysis

**Figure 46: Coal HDSA component contribution**



Source: SNG and Chamber of Mines analysis

**Figure 47: Coal assets forming part of the BEE calculations**

| Asset                                                                    | Volume % contribution to sector | Mining companies                                       |
|--------------------------------------------------------------------------|---------------------------------|--------------------------------------------------------|
| AngloCoal SA operations (incl Inyosi and Mafube)                         | 30.4                            | Anglo American Coal, Exxaro Resources                  |
| BECSA                                                                    | 14.0                            | BHP Billiton                                           |
| Glencore (PCB, GGV, Shanduka Coal, Optimum, Koornfontein, Umcebo Mining) | 20.0                            | Glencore, African Rainbow Minerals, Shanduka Resources |
| Exxaro Coal                                                              | 17.5                            | Exxaro Resources                                       |
| Sasol Mining                                                             | 18.2                            | Sasol Mining                                           |

Source: Company reports, SNG, Chamber of Mines

## Market dynamics

The South African coal industry is largely a thermal coal industry, with very limited amounts of metallurgical and anthracite coal being produced.

A large proportion of the lower quality domestic coal produced in South Africa is produced into long-term contracts for power generation or fuel/chemicals conversion. Of the approximately 75 mtpa export coal, the bulk is transported via Richards Bay Coal Terminal (RBCT). As a result of a major shift in demand over the years from Europe to Asia, as well as increasing challenges by South African mines to produce a 6 000 CV (RB1) product, an increasing percentage of lower quality South African coal is exported through RBCT. The price graph below reflects prices achieved for RB1 spec coal. Similar to most commodities over the period, export thermal coal prices spiked to unprecedented and unsustainable levels during 2008, creating unrealistic expectations around the long-term profitability and value of the industry. Prices for domestic coal are difficult to represent in graph form, as domestic production has a far wider specification range, while much is tied into long-term contracts.

**Figure 48: RBCT FOB prices – US\$/MT & ZAR/MT**



Source: Bloomberg, RMB

**Figure 49: Performance on JSE**



Source: Bloomberg, RMB

Although briefly represented by the listing of Optimum Coal, over the time period, the JSE has lacked a consistent mix of representative and sizeable coal companies. The index reflected is therefore a broader mix of diversified companies, the performance of which has been skewed by for example strong contributions from iron ore. For example, although coal forms a large part of Exxaro's portfolio, its share price performance over the period has largely tracked Kumba, as a result of Exxaro's highly profitable exposure to 20% of the Sishen mine.

Over the period, a wide variety of BEE deals has occurred, resulting in a significant transfer of ownership in the sector. Although from a volume perspective, the bulk of these would be represented by Eskom coal mines, for example the Eyesizwe/Exxaro transactions, these were essential cornerstones for transformation, as due to their lower risk profiles were easier to fund for buyers with limited equity. However, subsequently, and particularly as a result of transformative transactions like Optimum Coal, ARM Coal and Shanduka, as well as the Quatro schemes, significant BEE exposure to RBCT export capacity has also been achieved.



## Diamonds

### Ownership results

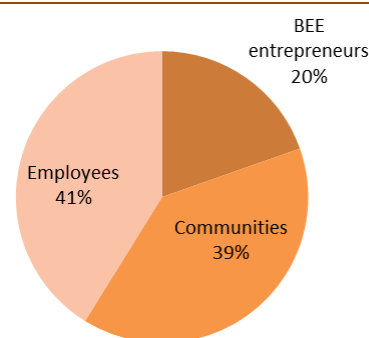
The Diamond sector has achieved a BEE ownership of 26.0% (4.4% BEE entrepreneurs, 11.6% communities and 10.0% ESOPs) based on value. The ownership structure has benefited 17% BEE entrepreneurs, 45% communities and 38% ESOPs, and an estimated 114 653 individuals. In terms of volumes, the industry has achieved a BEE ownership of 26.0% (5.1% BEE entrepreneurs, 10.2% communities and 10.7% ESOPs). The ownership structure has benefited 20% BEE entrepreneurs, 39% communities and 41% ESOPs. The Diamond sector has a net value of between R 616 million and R 5 290 million representing a change of between -56% and 282%.

Figure 50: Diamonds HDSA overall contribution

|                         | Total HDSA  | BEE entrepreneurs | Communities | ESOPs       |
|-------------------------|-------------|-------------------|-------------|-------------|
| <b>By value (%)</b>     |             |                   |             |             |
| Current                 | 26.0        | 4.4               | 11.6        | 10.0        |
| Continuing consequences | 0.0         | 0.0               | 0.0         | 0.0         |
| <b>Total</b>            | <b>26.0</b> | <b>4.4</b>        | <b>11.6</b> | <b>10.0</b> |
| <b>By volume (%)</b>    |             |                   |             |             |
| Current                 | 26.0        | 5.1               | 10.2        | 10.7        |
| Continuing consequences | 0.0         | 0.0               | 0.0         | 0.0         |
| <b>Total</b>            | <b>26.0</b> | <b>5.1</b>        | <b>10.2</b> | <b>10.7</b> |
| <b>Participants</b>     |             |                   |             |             |
| No of structures        | 10.0        | 4.0               | 2.0         | 4.0         |
| No of individuals       | 114 653     | 4.0               | 99 679      | 14 970      |

Source: SNG and Chamber of Mines analysis

Figure 51: Diamonds HDSA component contribution



Source: SNG and Chamber of Mines analysis

Figure 52: Diamonds assets forming part of the BEE calculations

| Asset                      | Volume % contribution to sector | Mining companies       |
|----------------------------|---------------------------------|------------------------|
| DeBeers Consolidated Mines | 71.3                            | Anglo American DeBeers |
| Finsch                     | 28.7                            | Petra                  |

Source: Company reports, SNG, Chamber of Mines

## Market dynamics

South Africa's diamond production is dominated by kimberlite open-cast and underground mines, and to a lesser extent, dump retreatment operations. A much smaller volume (although much higher value per carat) of diamonds is produced from a variety of smaller scale, low grade, alluvial operations. Over the period, diamond prices, apart from a short and sharp correction post-GFC, have been relatively robust.

**Figure 53: Diamond price index**



Source: Bloomberg, CoM

Like coal, the JSE has a rather unrepresentative Diamond sector, following the de-listing of De Beers, and the listing of Petra Diamonds in London. The remainder of the junior Diamond sector is not really representative of the overall diamond industry in South Africa.

Over the period, the South African diamond sector has gone through major restructuring. Not only was De Beers de-listed, a series of major older mines were sold by De Beers to Petra Diamonds. This in time resulted in a rejuvenation of these mines, and has significantly extended the scale and life of mine of large scale diamond mining in South Africa. As a result, the major BEE deals in the sector have also been dominated by De Beers and Petra Diamonds.

## Iron ore

### Ownership results

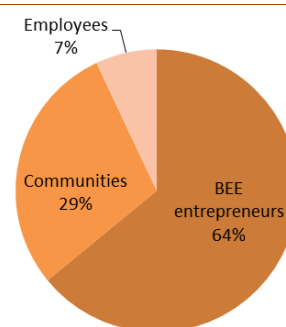
The Iron Ore sector has achieved a BEE ownership of 38.2% (24.0% BEE entrepreneurs, 12.0% communities and 2.2% ESOPs) based on value. The ownership structure has benefited 63% BEE entrepreneurs, 31% communities and 6% ESOPs, and an estimated 1 482 163 individuals. In terms of volumes, the industry has achieved a BEE ownership of 35.7% (22.9% BEE entrepreneurs, 10.3% communities and 2.5% ESOPs). The ownership structure has benefited 64% BEE entrepreneurs, 29% communities and 7% ESOPs. The Iron Ore sector has a net value of between R 53 220 million and R 115 330 million representing a change of between 433% and 1054%.

Figure 54: Iron ore HDSA overall contribution

|                         | Total HDSA  | BEE entrepreneurs | Communities | ESOPs      |
|-------------------------|-------------|-------------------|-------------|------------|
| <b>By value (%)</b>     |             |                   |             |            |
| Current                 | 38.2        | 24.0              | 12.0        | 2.2        |
| Continuing consequences | 0.0         | 0.0               | 0.0         | 0.0        |
| <b>Total</b>            | <b>38.2</b> | <b>24.0</b>       | <b>12.0</b> | <b>2.2</b> |
| <b>By volume (%)</b>    |             |                   |             |            |
| Current                 | 35.7        | 22.9              | 10.3        | 2.5        |
| Continuing consequences | 0.0         | 0.0               | 0.0         | 0.0        |
| <b>Total</b>            | <b>35.7</b> | <b>22.9</b>       | <b>10.3</b> | <b>2.5</b> |
| <b>Participants</b>     |             |                   |             |            |
| No of structures        | 10.0        | 4.0               | 4.0         | 2.0        |
| No of individuals       | 1 482 163   | 4.0               | 1 474 636   | 7 523      |

Source: SNG and Chamber of Mines analysis

Figure 55: Iron ore HDSA component contribution



Source: SNG and Chamber of Mines analysis

Figure 56: Iron ore assets forming part of the BEE calculations

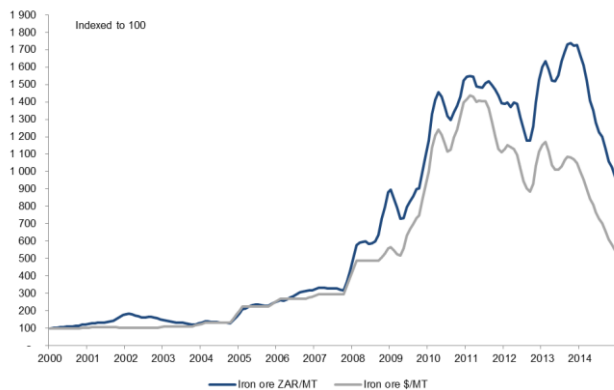
| Asset                          | Volume % contribution to sector | Mining companies                 |
|--------------------------------|---------------------------------|----------------------------------|
| Sishen, Kolomela, Thabazimbi   | 75.5                            | Anglo American Kumba Iron Ore    |
| Assmang (Khumani and Beeshoek) | 24.5                            | African Rainbow Minerals, Assore |

Source: Company reports, SNG, Chamber of Mines

### Market dynamics

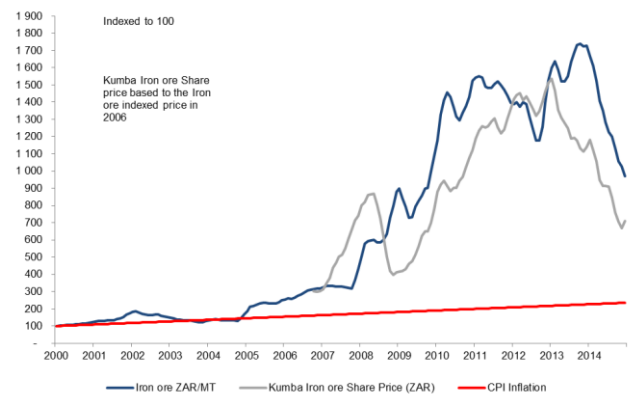
Of all the bulk commodities, iron ore prices have probably seen the most spectacular Bull Run. On the back of the rapid expansion of Chinese steel demand, iron ore prices have been pushed to unprecedented levels. South Africa, although benefitting significantly from the Bull Run, missed out on maximising the opportunity due to rail infrastructure constraints. Unfortunately, the significant capital the extensive bull run has attracted to the industry, has created a very large capacity growth momentum at a time that Chinese steel output growth is stalling. The rapid correction in prices over the past six months has stalled Africa's ambitious iron ore prospects, as the three major global producers intend to grow its share of low cost production to the detriment of the higher cost producers.

**Figure 57: Iron ore prices – US\$/MT & ZAR/MT**



Source: Bloomberg, RMB

**Figure 58: Performance on JSE**



Source: Bloomberg, RMB

In the graph above, we have used Kumba as the purest proxy for stocks exposed to the iron ore cycle. As result of fortuitous cycle timing, both Kumba (and Exxaro) have seen exceptional BEE benefits from the spectacular run in iron ore prices. It has, however, created unrealistic expectations among government, unions and the public, on both the profitability of the industry in general, and its ability for a 'repeat performance'.

## Manganese ore

### Ownership results

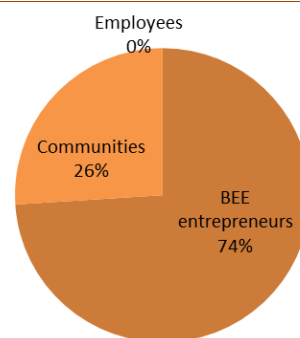
The Manganese Ore sector has achieved a BEE ownership of 50.1% (33.3% BEE Entrepreneurs, 16.3% Communities and 0.0% ESOPs) based on value. The ownership structure has benefited 67% BEE entrepreneurs, 33% communities and 0% ESOPs, and an estimated 411 512 individuals. In terms of volumes, the industry has achieved a BEE ownership of 42.2% (31.2% BEE entrepreneurs, 11.0% communities and 0.0% ESOPs). The ownership structure has benefited 74% BEE entrepreneurs, 26% communities and 0% ESOPs. The Manganese Ore sector has a net value of between R -436 million and R 8 389 million representing a change of between -100% and 100%.

Figure 59: Manganese ore HDSA overall contribution

|                         | Total HDSA  | BEE entrepreneurs | Communities | ESOPs      |
|-------------------------|-------------|-------------------|-------------|------------|
| <b>By value (%)</b>     |             |                   |             |            |
| Current                 | 50.1        | 33.8              | 16.3        | 0.0        |
| Continuing consequences | 0.0         | 0.0               | 0.0         | 0.0        |
| <b>Total</b>            | <b>50.1</b> | <b>33.8</b>       | <b>16.3</b> | <b>0.0</b> |
| <b>By volume (%)</b>    |             |                   |             |            |
| Current                 | 42.2        | 31.2              | 11.0        | 0.0        |
| Continuing consequences | 0.0         | 0.0               | 0.0         | 0.0        |
| <b>Total</b>            | <b>42.2</b> | <b>31.2</b>       | <b>11.0</b> | <b>0.0</b> |
| <b>Participants</b>     |             |                   |             |            |
| No of structures        | 4.0         | 2.0               | 2.0         | 0.0        |
| No of individuals       | 411 512     | 2.0               | 411 510     | 0.0        |

Source: SNG and Chamber of Mines analysis

Figure 60: Manganese ore HDSA component contribution



Source: SNG and Chamber of Mines analysis

Figure 61: Manganese ore assets forming part of the BEE calculations

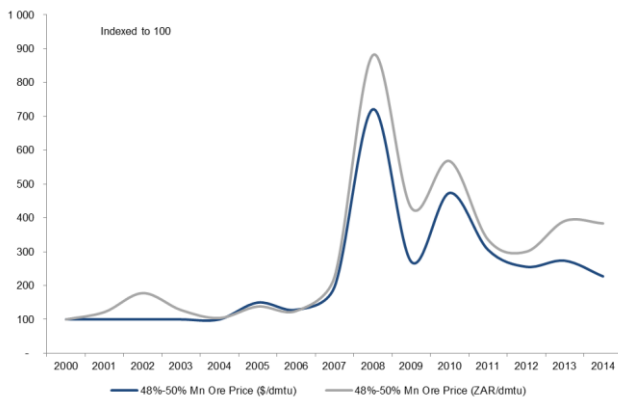
| Asset               | Volume % contribution to sector | Mining companies                 |
|---------------------|---------------------------------|----------------------------------|
| Assmang (Blackrock) | 43.8                            | African Rainbow Minerals, Assore |
| Samancor            | 56.2                            | BHP Billiton, Anglo American     |

Source: Company reports, SNG, Chamber of Mines

### Market dynamics

As an essential ingredient for the steel industry, manganese has similarly benefitted from the rapid growth of the Chinese steel industry over the period. The industry in South Africa has experienced a period of exceptional profitability, achieving unprecedented price levels. It also attracted significant new capital to the industry, resulting in a wide range of new (and empowered) entrants to the industry.

**Figure 62: Manganese ore prices**



Source: Bloomberg, RMB

The JSE does not offer any 'pure play' manganese exposures. Although both Assore and ARM hold significant investments in manganese assets, their share price performance has been dominated more by iron ore price performance. Apart from the impressive bull run over the period, a key feature of the industry was the re-distribution of mineral rights to a broad range of new industry participants. As a result of the manganese bull run, many of the new entrants managed to either sell portions of their assets at handsome valuations, or managed to more easily attract capital to start their new ventures. A range of new, particularly open-cast, empowered and successful manganese producers have therefore emerged. Like iron ore, due to rail constraints, the industry failed to maximise benefits from the manganese boom during peak pricing. Also, there is an increasing fear of overcapacity developing in the industry, which, together with Transnet finally starting to deliver, could suppress prices for longer, putting increasing pressure on some of the new empowered players in the industry.

## Chrome

### Ownership results

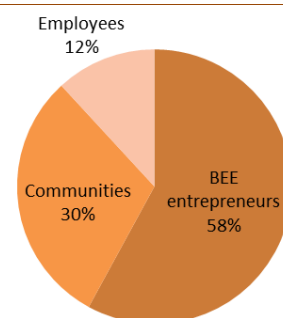
The Chrome sector has achieved a BEE ownership of 28.1% (15.9% BEE entrepreneurs, 7.0% communities and 5.2% ESOPs) based on value. The ownership structure has benefited 57% BEE entrepreneurs, 25% communities and 18% ESOPs and an estimated 454 594 individuals. In terms of volumes, the industry has achieved a BEE ownership of 35.1% (20.3% BEE entrepreneurs, 10.6% communities and 4.2% ESOPs). The ownership structure has benefited 58% BEE entrepreneurs, 30% communities and 12% ESOPs. The Chrome sector has a net value of between R 1 824 million and R 5 242 million representing a change of between 204% and 774%.

**Figure 63: Chrome HDSA overall contribution**

|                         | Total HDSA  | BEE entrepreneurs | Communities | ESOPs      |
|-------------------------|-------------|-------------------|-------------|------------|
| <b>By value (%)</b>     |             |                   |             |            |
| Current                 | 28.1        | 15.9              | 7.0         | 5.2        |
| Continuing consequences | 0.0         | 0.0               | 0.0         | 0.0        |
| <b>Total</b>            | <b>28.1</b> | <b>15.9</b>       | <b>7.0</b>  | <b>5.2</b> |
| <b>By volume (%)</b>    |             |                   |             |            |
| Current                 | 35.1        | 20.3              | 10.6        | 4.2        |
| Continuing consequences | 0.0         | 0.0               | 0.0         | 0.0        |
| <b>Total</b>            | <b>35.1</b> | <b>20.3</b>       | <b>10.6</b> | <b>4.2</b> |
| <b>Participants</b>     |             |                   |             |            |
| No of structures        | 8.0         | 3.0               | 4.0         | 1.0        |
| No of individuals       | 454 594     | 3.0               | 454 591     | 0.0        |

Source: SNG and Chamber of Mines analysis

**Figure 64: Chrome HDSA component contribution**



Source: SNG and Chamber of Mines analysis

**Figure 65: Chrome assets forming part of the BEE calculations**

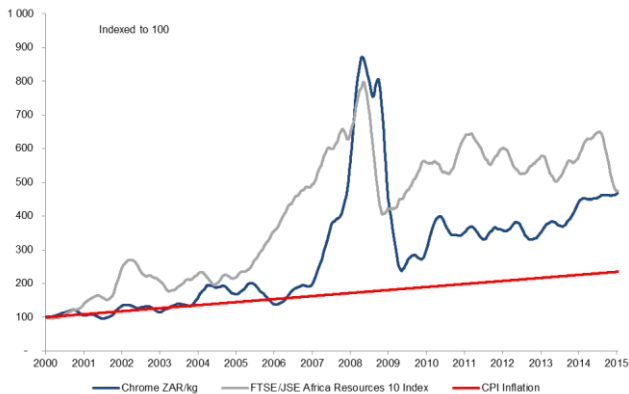
| Asset                          | Volume % contribution to sector | Mining Companies                 |
|--------------------------------|---------------------------------|----------------------------------|
| Assmang Chrome                 | 24.5%                           | African Rainbow Minerals, Assore |
| Glencore Merafe Chrome Venture | 75.5%                           | Glencore, Merafe Resources       |

Source: Company reports, SNG, Chamber of Mines

### Market dynamics

The chrome industry has historically been notorious for its cyclical, and often marginal, pricing. Although it certainly benefitted from the commodities boom, it has seen a significant correction to its 'old' pricing structure, which has been further pressurised over the last few years due to significant volumes of chrome from UG2 reprocessing appearing on the market. This has been forecast to continue to grow rapidly, and has put significant strain on the South African chrome market outlook.

**Figure 66: Chrome prices and performance on JSE**



Source: Bloomberg, RMB

Merafe Resources is the only pure chrome player listed on the JSE and represent ca. 4% of global production.

Funding of BEE transactions in the industry has posed significant challenges. The chrome industry is especially price volatile, and often marginal, making the structuring of commercial or vendor debt packages challenging.



## 6. Appendices

### Appendix A: Sources of information

1. Audited Annual Financial Statements 2014 for listed entities
2. Integrated Reports 2014 for listed entities
3. Mining operation reviews 2014
4. Members websites
5. Ownership submission to DMR by the Members
6. Discussions with shareholders, directors and key personnel of the Members
7. Dealmakers online
8. CAP IQ
9. Bloomberg
10. Inet Bridge
11. Chamber of mines of South Africa

## Appendix B: Evolution of BEE

The initial wave of BEE transactions took place outside of any formal regulatory framework and was largely driven by the business community. These transactions were almost entirely focused on equity transfer based on ownership and financing structures, which eventually proved to be unsustainable. Consequently, most of the BEE transactions from this period eventually collapsed or were subsumed into later transactions. It became clear to government that the desired breadth and depth of empowerment would not be achieved without some degree of regulation. This gave rise to an entire regulatory framework being created to govern BEE with specific industry charters for those industries which were identified as particular areas of focus, including the mining industry.

Fundamentally, BEE has become an explicit policy intervention to ensure the equitable participation of black South Africans in the economic activities of the country from an income-sharing and decision-making perspective. The intention, therefore, is entirely appropriate; the means to achieving it, however, remains controversial and predominantly focused on one key element of BEE – notably the transfer of corporate shareholding to black-owned entities.

BEE has been a focus of government for some time but with shifts in emphasis and policy priorities. The Following periods generally characterise the metamorphoses of BEE:

- **First wave** of BEE ownership, which was largely private sector driven and dissipated after the 1998 Asian crisis.
- The **second wave** from 2000 to 2008, when it became evident that the hiatus was passing and that government would become more interventionist in its approach towards black ownership in the corporate sector. The period is characterised by transformation charters, BEE legislation, and ultimately the introduction of the Department of Trade and Industry (DTI) Codes of Good Practice (Codes) in 2005.
- The **third wave** post-2008, a period marked by the collapse of the Global Economy, introduction of the Mining Industry Growth, Development and Employment Task Team (MIDGETT), the release of the new Mining Charter, and growing uncertainty over security of tenure of mineral rights.
- **Emerging trend** – the next wave of BEE will likely be driven by the government's strategic agenda, which involves the creation of black industrialists. Although not defined, the intention seems to be to create a class of black entrepreneurs who not only control businesses but also have operational control. The government will increasingly use its procurement spend policies (especially through state-owned enterprises) to facilitate the achievement of this strategic objective.

The table below outlines the Mining BEE evolution:

| Pre MRPDA promulgation & Mining Charter (1994 – 2003)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Post MRPDA promulgation & Mining Charter (2004– 2014)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>  1994</b><br/>First democratic elections. Nelson Mandela elected President (ANC).</p> <p><b>  1995</b><br/>SA Springboks win the Rugby World Cup in South Africa.</p> <p><b>  1996</b><br/>Truth and Reconciliation Commission was chaired by Archbishop Desmond Tutu.</p> <p><b>  1997</b><br/>New Constitution implemented, replacing interim constitution.</p> <p><b>  1998</b><br/>White Paper on Minerals and Mining policy.</p> <p><b>  1999</b><br/>Dept of Minerals and Energy (DME) Minister Pumzile Mlambo-Ngucka (appointed by President Nelson Mandela). SA's second democratic elections, with ANC retaining majority.</p> <p><b>  2000</b><br/>Release of the draft Minerals Development Bill.</p> <p><b>  2001</b><br/>Bull market for commodities commences, led by China.</p> <p><b>  2002</b><br/>Passing of the MRPDA by Parliament.<br/><b>Leaking of a draft of the Mining Charter</b> (R52bn reduction in market capitalisation of JSE-listed mining companies). Mining Charter signed on 11 October.</p> <p><b>  2003</b><br/>Promulgation of the Broad-Based Black Economic Empowerment Act.</p> | <p><b>  2004</b><br/>SA's third democratic elections.<br/>MPRDA brought into force on 1 May 2004.</p> <p><b>  2005</b><br/>Promulgation of the Precious Metals Act.</p> <p><b>  2006</b><br/>DME Minister Buyelwa Sonjica (appointed by President Thabo Mbeki).</p> <p><b>  2007</b><br/>B-BBEE Codes of Good Practice.</p> <p><b>  2008</b><br/>Promulgation of the Royalty Bill.<br/>MIGDETT established.<br/>World financial crisis.</p> <p><b>  2009</b><br/>SA's fourth democratic elections.<br/>DMR Minister Susan Shabangu (appointed by President Kgalema Motlanthe).<br/>Creation of two separate ministries: Resources (DMR) and Energy.<br/>Initial Mining Charter ownership target of 15%.</p> <p><b>  2010</b><br/>SA hosts successful FIFA World Cup.<br/>Revision of the Mining Charter.</p> <p><b>  2011</b><br/>Calls for nationalisation of mines.</p> <p><b>  2012</b><br/>ANC SIMS* document released.<br/>Tragic Marikana strike resulting in deadly violence.</p> <p><b>  2013</b><br/>B-BBEE Amendment Act passed by Parliament (brought into force in 2014).</p> <p><b>  2014</b><br/>Record lows for commodity prices.<br/>SA's fifth democratic elections.<br/>DMR Minister Advocate Ngoako Ramatlhodi (appointed by President Jacob Zuma).<br/>Final Mining Charter ownership target of 26%.<br/>MRPDA Amendment Bill approved in parliament.<br/>MIGDETT revived.</p> |

Source: Chamber of Mines; \*SIMS: State intervention in the minerals sector

## Appendix C: Mining charter scorecard (per DMR website, revised 2010)

### SCORECARD FOR THE BROAD-BASED SOCIO-ECONOMIC EMPOWERMENT CHARTER FOR THE SOUTH AFRICAN MINING INDUSTRY

| ELEMENT                                | DESCRIPTION                                                                                                                                                                                                                                                                               | MEASURE                                                                                         | COMPLIANCE TARGET BY 2014                            | PROGRESS ACHIEVED BY                                                                                                                            |            |            |            |            | Weighting |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|-----------|
|                                        |                                                                                                                                                                                                                                                                                           |                                                                                                 |                                                      | 2010                                                                                                                                            | 2011       | 2012       | 2013       | 2014       |           |
| 1 Reporting                            | Has the company reported the level of compliance with the Charter for the Calendar year                                                                                                                                                                                                   | Documentary proof of receipt from the department                                                | Annually                                             | March 2011                                                                                                                                      | March 2012 | March 2013 | March 2014 | March 2015 | Y/N       |
| 2 Ownership                            | Minimum target for effective HDSA ownership                                                                                                                                                                                                                                               | Meaningful economic participation                                                               | 26%                                                  | 15%                                                                                                                                             |            |            |            | 26%        | Y/N       |
|                                        |                                                                                                                                                                                                                                                                                           | Full shareholder rights                                                                         | 26%                                                  | 15%                                                                                                                                             |            |            |            | 26%        |           |
| 3 Housing and living conditions        | Conversion and upgrading of hostels to attain the occupancy rate of one person per room.                                                                                                                                                                                                  | Percentage reduction of occupancy rate towards 2014 target.                                     | Occupancy rate of one person per room                | Base-line                                                                                                                                       | 25%        | 50%        | 75%        | 100%       | Y/N       |
|                                        | Conversion and upgrading of hostels into family units                                                                                                                                                                                                                                     | Percentage conversion of hostels into family units                                              | Family units established                             | Base-line                                                                                                                                       | 25%        | 50%        | 75%        | 100%       |           |
| 4 Procurement & Enterprise Development | Procurement spent from BEE entity                                                                                                                                                                                                                                                         | Capital goods                                                                                   | 40%                                                  | 5%                                                                                                                                              | 10%        | 20%        | 30%        | 40%        | 5%        |
|                                        |                                                                                                                                                                                                                                                                                           | Services                                                                                        | 70%                                                  | 30%                                                                                                                                             | 40%        | 50%        | 60%        | 70%        | 5%        |
|                                        |                                                                                                                                                                                                                                                                                           | Consumable goods                                                                                | 50%                                                  | 10%                                                                                                                                             | 15%        | 25%        | 40%        | 50%        | 2%        |
|                                        | Multinational suppliers contribution to the social fund                                                                                                                                                                                                                                   | Annual spend on procurement from multinational suppliers                                        | 0.5% of procurement value                            | 0.50%                                                                                                                                           | 0.50%      | 0.50%      | 0.50%      | 0.50%      | 3%        |
| 5 Employment Equity                    | Diversification of the workplace to reflect the country's demographics to attain competitiveness.                                                                                                                                                                                         | Top Management (Board)                                                                          | 40%                                                  | 20%                                                                                                                                             | 25%        | 30%        | 35%        | 40%        | 3%        |
|                                        |                                                                                                                                                                                                                                                                                           | Senior Management (Exco)                                                                        | 40%                                                  | 20%                                                                                                                                             | 25%        | 30%        | 35%        | 40%        | 4%        |
|                                        |                                                                                                                                                                                                                                                                                           | Middle Management                                                                               | 40%                                                  | 30%                                                                                                                                             | 35%        | 40%        | 40%        | 40%        | 3%        |
|                                        |                                                                                                                                                                                                                                                                                           | Junior Management                                                                               | 40%                                                  | 40%                                                                                                                                             | 40%        | 40%        | 40%        | 40%        | 1%        |
|                                        |                                                                                                                                                                                                                                                                                           | Core Skills                                                                                     | 40%                                                  | 15%                                                                                                                                             | 20%        | 30%        | 35%        | 40%        | 5%        |
| 6 Human Resource Development           | Development of requisite skills, incl. support for South African based research and development initiatives intended to develop solutions in exploration, mining, processing, technology efficiency (energy and water use in mining), beneficiation as well as environmental conservation | HRD expenditure as percentage of total annual payroll (excl. mandatory skills development levy) | 5%                                                   | 3%                                                                                                                                              | 3.5%       | 4.0%       | 4.5%       | 5.0%       | 25%       |
| 7 Mine community development           | Conduct ethnographic community consultative and collaborative processes to delineate community needs analysis                                                                                                                                                                             | Implement approved community projects                                                           | Up-to-date project implementation                    | Implementation of projects will serve to enhance relationships amongst stakeholders leading to communities owing patronage to projects.         |            |            |            |            | 15%       |
| 8 Sustainable development & growth     | Improvement of the industry's environmental management                                                                                                                                                                                                                                    | Implementation of approved EMPs.                                                                | 100%                                                 | Annual progress achieved against approved EMPs.                                                                                                 |            |            |            |            | 12%       |
|                                        | Improvement of the industry's mine health and safety performance                                                                                                                                                                                                                          | Implementation of the tripartite action plan on health and safety                               | 100%                                                 | Annual progress achieved against commitments in the tripartite action plan on health and safety.                                                |            |            |            |            | 12%       |
|                                        | Utilisation of South African based research facilities for analysis of samples across the mining value                                                                                                                                                                                    | Percentage of samples in South African facilities                                               | 100%                                                 | establish baseline                                                                                                                              | 25%        | 50%        | 75%        | 100%       | 5%        |
| 9 Beneficiation                        | Contribution of a mining company towards beneficiation (this measure is effective from 2012)                                                                                                                                                                                              | Additional production volume contributory to local value addition beyond the base-line          | Section 26 of the MPRDA (percentage above baseline ) | The beneficiation strategy and its modalities of implementation outline the beneficiation requirements per commodity extracted in South Africa. |            |            |            |            | -         |
| TOTAL SCORE                            |                                                                                                                                                                                                                                                                                           |                                                                                                 |                                                      |                                                                                                                                                 |            |            |            |            | 100%      |

Y/N applies to pillars that are ring-fenced.

#### Legend

|  |                                             |
|--|---------------------------------------------|
|  | 0-25% (Gross non-compliance)                |
|  | 25-50% (Non-compliance)                     |
|  | 50-75% (Marginal to acceptable performance) |
|  | 75-100% (Excellent performance)             |

## Appendix D: DTI ownership element of the BEE Codes of good practice

| Category | Ownership indicator                                                                                                                                                                                              | Weighting points | Compliance Target             |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------|
| 2.1      | Voting rights:                                                                                                                                                                                                   |                  |                               |
|          | 2.1.1 Exercisable Voting Rights in the Enterprise in the hands of black people                                                                                                                                   | 3                | 25%+1 vote                    |
|          | 2.1.2 Exercisable Voting Rights in the Enterprise in the hands of black women                                                                                                                                    | 2                | 10%                           |
| 2.2      | Economic Interest:                                                                                                                                                                                               |                  |                               |
|          | 2.2.1 Economic Interest of black people in the Enterprise                                                                                                                                                        | 4                | 25%                           |
|          | 2.2.2 Economic Interest of black women in the Enterprise                                                                                                                                                         | 2                | 10%                           |
|          | 2.2.3 Economic Interest of the following black natural people in the Enterprise:                                                                                                                                 | 1                | 2.5%                          |
|          | 2.2.3.1 black designated groups;<br>2.2.3.2 black Participants in Employee Ownership Schemes;<br>2.2.3.3 black beneficiaries of Broad based Ownership Schemes; or<br>2.2.3.4 black Participants in Co-operatives |                  |                               |
| 2.3      | Realisation points:                                                                                                                                                                                              |                  |                               |
|          | 2.3.1 Ownership fulfilment                                                                                                                                                                                       | 1                | Refer to paragraph 10.1       |
|          | 2.3.2 Net Value                                                                                                                                                                                                  | 7                | Refer to Annexe C paragraph 4 |
| 2.4      | Bonus points:                                                                                                                                                                                                    |                  |                               |
|          | 2.4.1 Involvement in the ownership of the Enterprise of black new entrants:                                                                                                                                      | 2                | 10%                           |
|          | 2.4.2 Involvement in the ownership of the Enterprise of black Participants:                                                                                                                                      | 1                | 10%                           |
|          | 2.4.2.1 in Employee Ownership Schemes;<br>2.4.2.2 of Broad-Based Ownership Schemes; or<br>2.4.2.3 Co-operatives.                                                                                                 |                  |                               |

## Appendix E: Sector summary of Collation calculation

| Value (R million)        |             |         | BEE entrepreneurs |           |                  |                   |       |
|--------------------------|-------------|---------|-------------------|-----------|------------------|-------------------|-------|
|                          | Total Value | BEE     | Communities       | Employees | Other BB schemes | Past transactions |       |
| Coal                     | 106 633     | 46 772  | 32 207            | 5 266     | 6 228            | -                 | 3 071 |
| Iron ore                 | 195 156     | 74 522  | 46 805            | 23 367    | 4 350            | -                 | -     |
| Manganese ore            | 21 351      | 10 704  | 7 215             | 3 489     | -                | -                 | -     |
| Diamonds                 | 26 965      | 7 011   | 1 200             | 3 121     | 2 690            | -                 | -     |
| PGM                      | 154 054     | 60 871  | 27 714            | 25 488    | 2 837            | -                 | 4 832 |
| Gold                     | 87 475      | 25 175  | 14 555            | 727       | 7 227            | -                 | 2 666 |
| Chrome                   | 18 264      | 5 127   | 2 905             | 1 273     | 948              | -                 | -     |
| Total SA mining industry | 609 898     | 230 182 | 132 601           | 62 732    | 24 280           |                   |       |

| % Value                  |                |       | BEE entrepreneurs |           |                 |       | Past transactions |
|--------------------------|----------------|-------|-------------------|-----------|-----------------|-------|-------------------|
|                          | Industry split | BEE % | Communities       | Employees | Industry target |       |                   |
|                          | Values         |       |                   |           |                 |       |                   |
| Coal                     | 17.5%          | 43.9% | 30.20%            | 4.94%     | 5.84%           | 26.0% | 2.88%             |
| Iron ore                 | 32.0%          | 38.2% | 24.0%             | 12.0%     | 2.2%            | 26.0% | 0.0%              |
| Manganese ore            | 3.5%           | 50.1% | 33.8%             | 16.3%     | 0.0%            | 26.0% | 0.0%              |
| Diamonds                 | 4.4%           | 26.0% | 4.4%              | 11.6%     | 10.0%           | 26.0% | 0.0%              |
| PGM                      | 25.3%          | 39.5% | 18.0%             | 16.5%     | 1.8%            | 26.0% | 3.1%              |
| Gold                     | 14.3%          | 28.8% | 16.6%             | 0.8%      | 8.3%            | 26.0% | 3.0%              |
| Chrome                   | 3.0%           | 28.1% | 15.9%             | 7.0%      | 5.2%            | 26.0% | 0.0%              |
| Total SA mining industry | 100.0%         | 37.7% | 21.7%             | 10.3%     | 4.0%            |       | 1.7%              |

| Volume (Value of production) |              |           | BEE entrepreneurs |           |                  |   | Past transactions |
|------------------------------|--------------|-----------|-------------------|-----------|------------------|---|-------------------|
|                              | Total Volume | BEE       | Communities       | Employees | Other BB schemes |   |                   |
| Coal                         | 118 149.21   | 55 819    | 24 927.17         | 4 829.06  | 7 032.46         | - | 19 031            |
| Iron ore                     | 63 584.64    | 22 720    | 14 555.40         | 6 570.73  | 1 594.35         | - | -                 |
| Manganese ore                | 13 956.20    | 5 891     | 4 359.13          | 1 531.95  | -                | - | -                 |
| Diamonds                     | 7 095        | 1 845     | 361.79            | 723.36    | 759.55           | - | -                 |
| PGM                          | 76 900.08    | 29 190    | 13 373.31         | 10 484.46 | 1 781.69         | - | 3 551             |
| Gold                         | 56 158.25    | 15 339.85 | 9 337.55          | 796.40    | 3 829.21         | - | 1 377             |
| Chrome                       | 10 115.27    | 3 547     | 2 055.06          | 1 071.68  | 420.21           | - | -                 |
| Total SA mining industry     | 345 959      | 134 353   |                   |           |                  |   |                   |

|                          | Industry split |       |                   |             |           |                 |                   |
|--------------------------|----------------|-------|-------------------|-------------|-----------|-----------------|-------------------|
|                          | Volumes        | BEE % | BEE entrepreneurs | Communities | Employees | Industry target | Past transactions |
| Coal                     | 34.2%          | 47.2% | 21.1%             | 4.1%        | 6.0%      | 26.0%           | 16.1%             |
| Iron ore                 | 18.4%          | 35.7% | 22.9%             | 10.3%       | 2.5%      | 26.0%           | 0.0%              |
| Manganese ore            | 4.0%           | 42.2% | 31.2%             | 11.0%       | 0.0%      | 26.0%           | 0.0%              |
| Diamonds                 | 2.1%           | 26.0% | 5.1%              | 10.2%       | 10.7%     | 26.0%           | 0.0%              |
| PGM                      | 22.2%          | 38.0% | 17.4%             | 13.6%       | 2.3%      | 26.0%           | 4.6%              |
| Gold                     | 16.2%          | 27.3% | 16.6%             | 1.4%        | 6.8%      | 26.0%           | 2.5%              |
| Chrome                   | 2.9%           | 35.1% | 20.3%             | 10.6%       | 4.2%      | 26.0%           | 0.0%              |
| Total SA mining industry | 100.0%         | 38.8% | 19.9%             | 7.5%        | 4.5%      |                 | 6.9%              |

## Appendix F: Companies included

The following companies have been included in the collation:

|                      |                                                                                                                                                                           |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PGM</b>           | Anglo American Platinum<br>African Rainbow Minerals<br>Glencore<br>Impala Platinum<br>Lonmin Platinum<br>Aquarius Platinum<br>Royal Bafokeng Platinum<br>Northam Platinum |
| <b>Gold</b>          | AngloGold Ashanti<br>Goldfields<br>Sibanye Gold<br>Harmony Gold                                                                                                           |
| <b>Coal</b>          | Anglo American Coal<br>BHP<br>Glencore<br>Exxaro<br>Sasol Mining                                                                                                          |
| <b>Diamonds</b>      | DeBeers<br>Petra                                                                                                                                                          |
| <b>Iron ore</b>      | Kumba Iron Ore (Sishen)<br>Assmang (ARM)                                                                                                                                  |
| <b>Manganese ore</b> | Assmang (ARM)<br>BHP                                                                                                                                                      |
| <b>Chrome</b>        | Assmang (ARM)<br>Glencore                                                                                                                                                 |

## Appendix G: Illustrative Calculation example

The following calculation was used in the collation:

Sector A:

Illustrative example of BEE calculations:: Inputs

| Mining Asset | Corporate | BEE Entities      |           |      | EBITDA | Low | High | Low Value | High Value | Value | Volume | Ave price | Sales |
|--------------|-----------|-------------------|-----------|------|--------|-----|------|-----------|------------|-------|--------|-----------|-------|
|              |           | BEE Entrepreneurs | Community | ESOP |        |     |      |           |            |       |        |           |       |
| Asset A      | 70%       | 15%               | 10%       | 5%   | 1 000  | 2   | 4    | 2 000     | 4 000      | 3 000 | 10     | 10        | 100   |
| Asset B      | 50%       | 30%               | 10%       | 10%  | 750    | 2   | 4    | 1 500     | 3 000      | 2 250 | 5      | 10        | 50    |

Source: SNG, Chamber of Mines

Illustrative example of BEE calculations : Value

| Mining Asset | Corporate | BEE Entrepreneurs | Community  | ESOP       | Total        |
|--------------|-----------|-------------------|------------|------------|--------------|
| Asset A      | 2 100     | 450               | 300        | 150        | 3 000        |
| Asset B      | 1 125     | 675               | 225        | 225        | 2 250        |
| Total        | 3 225     | <b>1 125</b>      | <b>525</b> | <b>375</b> | <b>5 250</b> |
|              |           | <b>A</b>          | <b>B</b>   | <b>C</b>   | <b>D</b>     |

Source: SNG, Chamber of Mines

Illustrative example of BEE calculations: Volumes

| Mining Asset | Corporate | BEE Entrepreneurs | Community | ESOP      | Total      |
|--------------|-----------|-------------------|-----------|-----------|------------|
| Asset A      | 70        | 15                | 10        | 5         | 100        |
| Asset B      | 25        | 15                | 5         | 5         | 50         |
| Total        | 100       | <b>30</b>         | <b>15</b> | <b>10</b> | <b>150</b> |
|              |           | <b>E</b>          | <b>F</b>  | <b>G</b>  | <b>H</b>   |

Source: SNG, Chamber of Mines

Illustrative example of BEE calculations: Summary Sector Values

| Mining Asset | BEE Entrepreneurs | Community | ESOP  | Total   |
|--------------|-------------------|-----------|-------|---------|
| Asset A      | 21.43%            | 10.00%    | 7.14% | 38.57%  |
|              | I=A/D             | J=B/D     | K=C/D | L=I+J+K |

Source: Company reports, SNG, Chamber of Mines

Illustrative example of BEE calculations: Summary Sector Volumes

| Mining Asset | BEE Entrepreneurs | Community | ESOP  | Total   |
|--------------|-------------------|-----------|-------|---------|
| Asset A      | 20.00%            | 10.00%    | 6.67% | 36.67%  |
|              | M=E/H             | N=F/H     | O=G/H | P=M+N+O |

Source: SNG, Chamber of Mines



## Appendix H: Stakeholder analysis results

The following are the results of the stakeholder analysis:

### Stakeholder analysis results

|                                      | Total | Punitive<br>Continuing<br>consequences | Punitive<br>stakeholder<br>measure |
|--------------------------------------|-------|----------------------------------------|------------------------------------|
| Total SA mining industry CoM measure | 38%   | 10%                                    | 28%                                |
| Coal                                 | 43%   | 14%                                    | 32%                                |
| Iron ore                             | 35%   | 2%                                     | 33%                                |
| Manganese ore                        | 42%   | 0%                                     | 42%                                |
| Diamonds                             | 26%   | 0%                                     | 26%                                |
| PGM                                  | 36%   | 10%                                    | 26%                                |
| Gold                                 | 29%   | 17%                                    | 12%                                |
| Chrome                               | 35%   | 0%                                     | 35%                                |

Source: SNG, Chamber of Mines

### Beneficiary structure analysis results

|                                      | All 3 structures | All 3 structures based on volume |
|--------------------------------------|------------------|----------------------------------|
| Total SA mining industry CoM measure | 41%              | 44%                              |
| Coal                                 | 64%              | 64%                              |
| Iron ore                             | 50%              | 50%                              |
| Manganese ore                        | 0%               | 0%                               |
| Diamonds                             | 50%              | 50%                              |
| PGM                                  | 27%              | 27%                              |
| Gold                                 | 25%              | 25%                              |
| Chrome                               | 50%              | 50%                              |

Source: SNG, Chamber of Mines

## Appendix I: Glossary

The following are the results of the stakeholder analysis:

Throughout this report and the appendices thereto, unless otherwise indicated, the words in the first column have the meanings stated opposite the second column.

| Abbreviations    | Meaning                                                                                                                                                                                |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B-BBEE           | Broad-Based Black Economic Empowerment                                                                                                                                                 |
| BEE              | Black Economic Empowerment                                                                                                                                                             |
| BEE control      | Where black shareholding is 50.1% or more and there is Management.                                                                                                                     |
| Black            | Black people who encompass Africans, Coloured and Indians who are South African by birth or descent; or who were naturalised before 27 April 1994 and includes Chinese people as well. |
| CoM              | Chamber of Mines of South Africa.                                                                                                                                                      |
| EBITDA           | Earnings before interest, tax, depreciation and amortisation                                                                                                                           |
| HDSA             | Historically Disadvantaged South Africans which encompasses Black people and White Females, for purposes of this exercise white women have been excluded.                              |
| Members          | Members of the Chamber of Mines of South Africa.                                                                                                                                       |
| Mining Companies | Mining Companies that have contributed to the empowerment of the Mining Asset.                                                                                                         |
| PGM              | Platinum Group Metals                                                                                                                                                                  |
| RMB              | Rand Merchant Bank, a division of FirstRand Limited.                                                                                                                                   |
| SNG              | SizweNtsalubaGobodo Inc.                                                                                                                                                               |